NOKIA FS-71E1

MODEL

SERVICE MANUAL

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DOLBY SURROUND PRO • LOGIC

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(GB)

SAFETY REGULATIONS:

Service and repair work must be performed only in accordance with existing safety regulations!

⚠ Safety components in accordance with existing regulations. These components must be replaced only with original parts.

X-RAY REGULATIONS:

The picture tube type and the maximum permissible high-voltage ensure that the X-ray intensity of the receiver remains far below the permissible value. The high-voltage must not exceed 30 kV.

The high voltage is within the permissible limits when the operating voltage of the horizontal deflection stage equals 140 V (25", 28"), 136 V (29") at the minimum beam current. In servicing, check and adjust this voltage to the nominal value with Po1.

(D)

SICHERHEITSBESTIMMUNGEN:

Bei Reparaturen gültige Sicherheitsvorschriften beachten!

⚠ Sicherheitsbauteil im Sinn der Sicherheitsbestimmung. Diese Teile dürfen nur durch Originalteile ersetzt werden.

RÖNTGENVERORDNUNG:

Die in der Röntgenverordnung festgelegte Ortsdosisleistung ist bei diesem Gerät durch die Bildröhrentype und die maximal zulässige Hochspannung gewährleistet. Die Hochspannung darf maximal 30 kV betragen. Die Hochspannung liegt im zulässigen Bereich, wenn die Betriebsspannung der Horizontal-Ablenkungstufe bei minimalen Strahlstrom 140 V (25", 28"), 136 V (29") beträgt. Bei Reparaturen ist die Spannung zu überprüfen und gegebenenfalls mit Po1 auf Sollwert einzustellen.

(S)

SÄKERHETS DIREKTIV:

Gällande säkerhetsdirektiv måste beaktas vid service-ingrepp!

⚠ Skyddskomponenter. Dessa komponenter får endast ersättas med original reservdelar.

RÖNTGENSTRÅLNING:

Med hjälp av bildrörstyp och begränsning av maximum högspänning kan mottagarens röntgenstrålning säkras under tillåten nivå. Högspänningen får inte överskrida 30kV. Högspänningen är inom tillåten nivå när horisontalslut-stegets drivspänning är 140 V (25", 28"), 136 V (29") med minimum strålström. Kontrollera och ställ in spänningen till dess nominella värde med Po1.

(F)

CONSIGNES DE SECURITE:

Veuillez observer les prescriptions de sécurité en viguer lors de dépannage!

⚠ Composant de sécurité conformément aux reglementations de sécurité. Ces composants doivent être uniquement remplacés par des piéces d'origines.

REGLEMENTATIONS RELATIVES AUX RAYONS X:

Le type de tube image et le maximum de haute tension assure que l'intensité des rayons X emis, pour ce recepteur, sont bien en dessous des valeurs admissibles. La haute tension ne doit pas dépasser 30 kV. La haute tension de l'etrage de déviation horizontale est egale à 140 V (25", 28"), 136 V (29") pour un minimum de courant de faisceau. Vérifier et régler, en mode service, cette tension à l'aide de Po1.

(I)

REGOLAMENTI DI SICUREZZA:

Osservare le norme di sicurezza vigenti in caso di reperazioni!

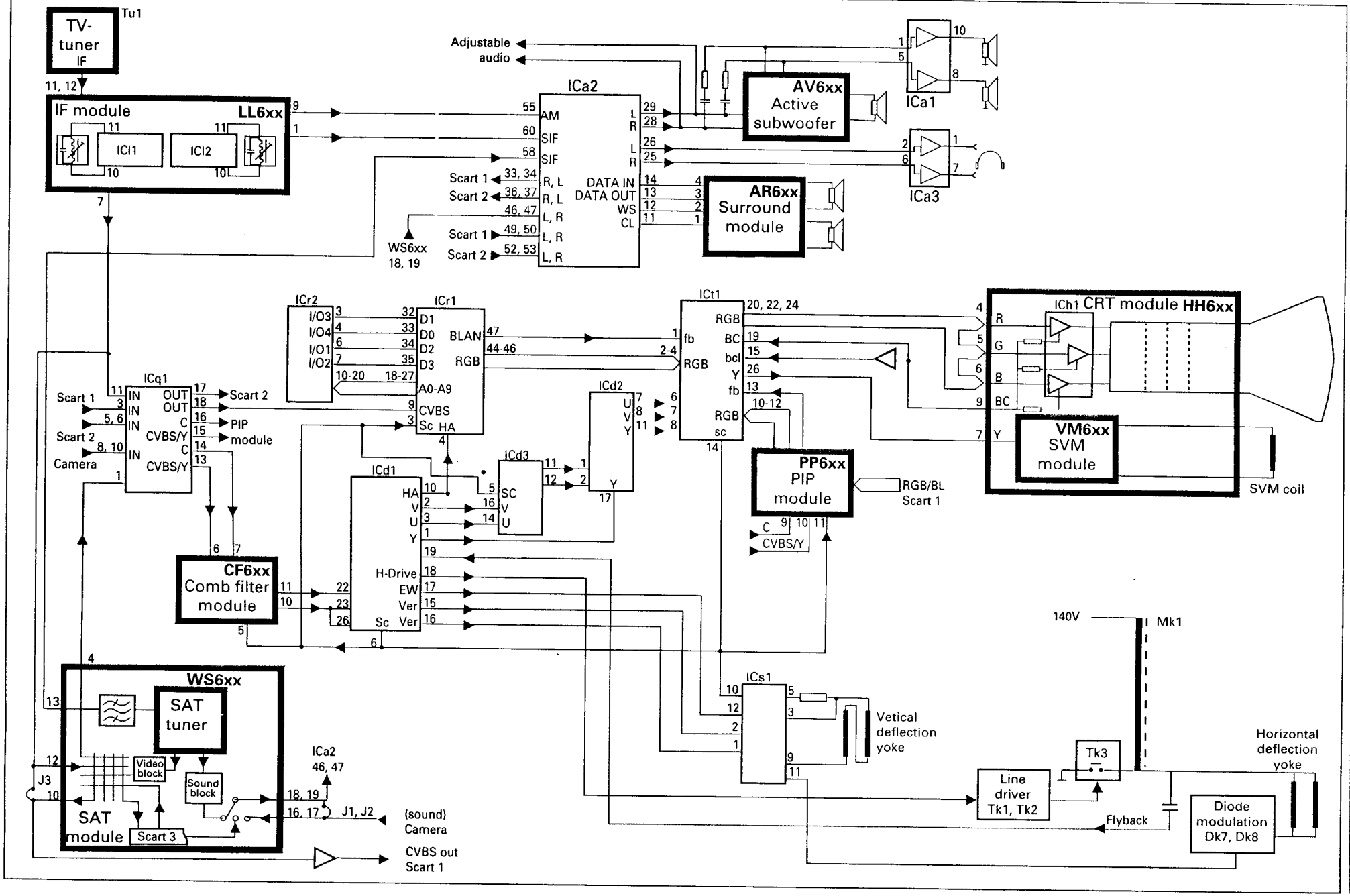
⚠ Componenti di sicurezza ai sensi del regolamento di sicurezza. Queste componenti devono venir sostituite unicamente con parti originali.

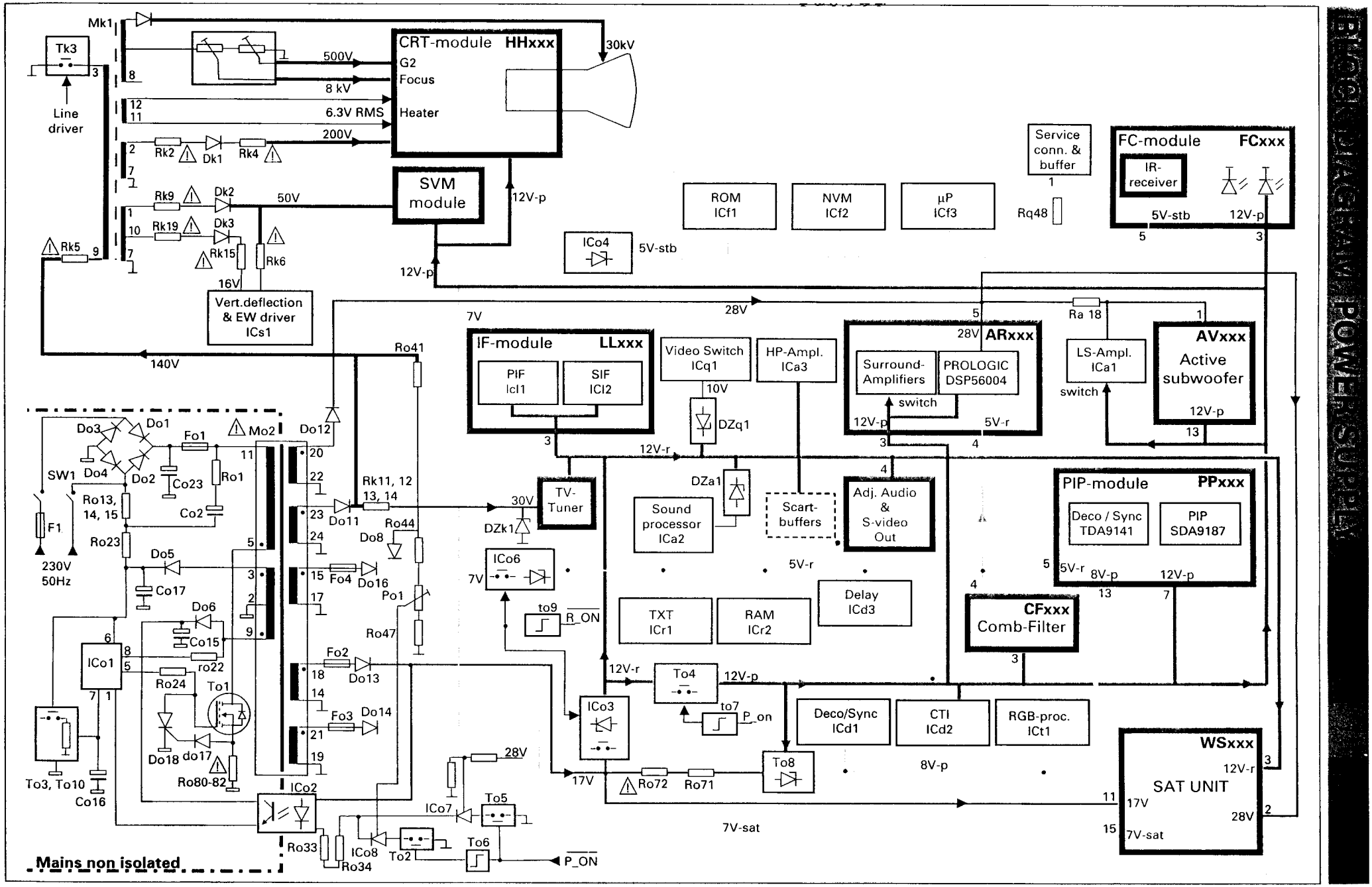
REGOLAMENTAZIONE DEI RAGGI-X:

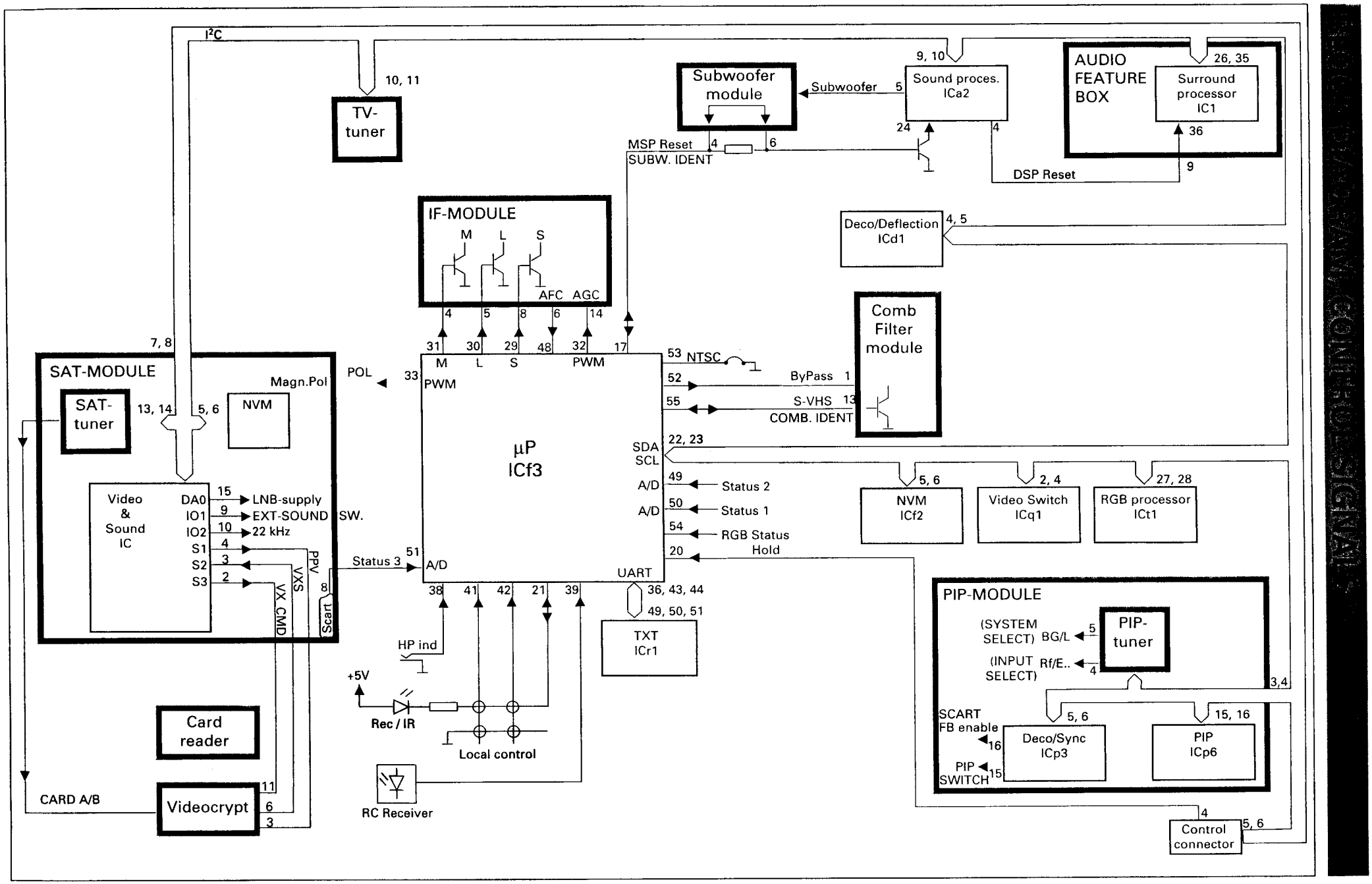
Il tipo di cinescopio impiegato e l' uttilizzo dalla massima tensione anodica permessa, assicurano che l' intensita dei raggi-X emessi dal televisore siano abbondantemente al di sotto dei valori permessi. La tensine anodica non deve eccedere i 30 kV. La tensione anodica è all' intemo dei limitti stabiliti quando la tensione di lavoro dello stadio di deflessione orizzontale è di 140 V per i 25", 28" e 136 V per i 29". Tali misure devono essere effettuate con la corrente di raggio al minimo. In caso di intervento, controllare tale tensione ed eventualmente regolaria con il trimmer Po1.

TECHNICAL DATA	TECHNISCHE DATEN	TEKNISKA DATA	
Mains power	Netzanschluß	Nätanslutning	230 V (-10% ... +6%), 50 Hz
Power consumption: Stand by Average (Depends on accessories)	Leistungsaufnahme: Stand by Im Mittel (Von der Ausstattung abhängig)	Effektförbrukning: Stand by I medeltal (Beroende på utrustning)	 Max. 6 W 145 W
Picture tube	Bildröhre	Bildrör	25", 28" 29"
Programme memory locations	Vorwählbare Kanäle	Antal programplatser	99
AV memory locations	AV-Speicherplätze	Antal AV-programplatser	3
Sound output Internal subwoofer (option) Dolby Surround: Surround channel Centre channel Chassis: Mains isolated Digital controlled	Ton-Endstufe Innerer subwoofer (option) Dolby Surround: Surround-Kanäle Mittel-Kanäle Ausstattung: Netzisoliert Digitalkontrolliert	Ljudeffekt Inbyggd subwoofer (optio) Dolby Surround: Surround-Kanal Center-Kanal Chassi Nätsisolerad Digitalstyrt	2 x 12 W (8 Ω) 14 W (16 Ω) 2 x 6 W (8Ω) 6 W
Connections On the front panel 3 x chinch	Anschlüsse Auf der Frontplatte 3 x chinch	Anslutningar På framsidan 3 x chinch	 Audio in 0,5 V / 10 kΩ Video in 1 V / 75Ω Y / C in (S-VHS)
Headphones	Kopfhöreranschluß	Anslutning för hörlurar	3.5 mm / 8 ... 600 Ω
On the rear panel SCART E1	Auf der Rückwand SCART E1	På baksidan SCART E1	 Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω RGB in 0,7 V / 75 Ω
SCART E2	SCART E2	SCART E2	Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75Ω Y / C in (S-VHS)
Extra loudspeakers	Zusatzlautsprecher	Extra högtalaranslutning	2 x DIN
Aerial	Antenneneingang	Antennanslutning	75 Ω
Specifications subject to change	**Änderungen vorbehalten**	**Rätt till ändringar förbehålles**	

DATI TECNICI	DONNES TECHNIQUES	
Tensio do rete	Branchement secteur	230 V (-10% ... +6%), 50 Hz
Consumo di energi: Stand by In media (Dipendere da accessorio)	Puissance de consommation: Stand by En moyenne (Dépendant des accessoires)	 Max. 6 W 145 W
Tubo a raggi catodici	Tube image	25", 28" 29"
Locazioni di memoria	Présélections	99
Locazioni di memoria AV	Memoires AV	3
Potenza audio in uscita Subwoofer interno (opzione) Dolby Surround: Surround canali Central canali	Puissance de sortie son Boomer interne (au choix) Dolby Surrond: Surround canaux Center canaux	2 x 12 W (8 Ω) 14 W (16 Ω) 2 x 6 W (8 Ω) 6 W
Chassi: Rete isolata Digitalmente controllata	Chassis: Isolé Avec contrôle numérique	
Collegamenti Frontali 3 x chinch	Cablage Prises avants 3 x chinch	 Audio in 0,5 V / 10 kΩ Video in 1 V / 75Ω Y / C in (S-VHS)
Cuffie	Casque	3,5 mm / 8 ... 600 Ω
Posteriori SCART E1	Prises arrières SCART E1	 Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω RGB in 0,7 V / 75 Ω
SCART E2	SCART E2	Audio out 0,5 V / 1 kΩ Audio in 0,5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω Y / C in (S-VHS)
Altoparlanti addizionali	Les haut-parleurs extérieurs	2 x DIN
Ingresso per l'antenna	Antenne	75 Ω
Ci reserviamo il diritto di apportare modifiche ulteriori	**Sous réserve de modifications!**	

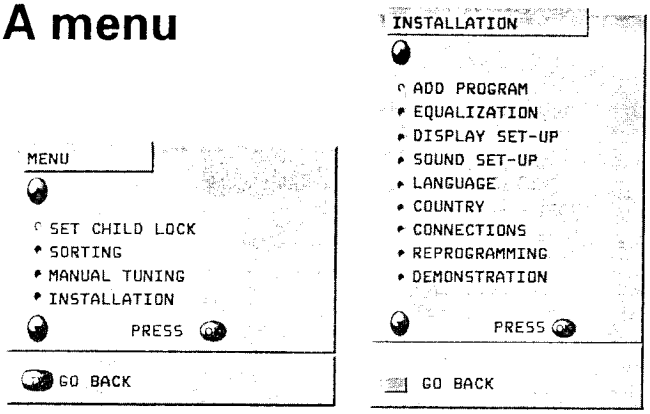

TV-tuner
IF
Tu1
11, 12
IF module
LL6xx
ICI1
ICI2
Adjustable audio
ICa2
AM
SIF
SIF
R, L
R, L
L, R
L, R
L, R
DATA IN
DATA OUT
WS
CL
Scart 1
Scart 2
WS6xx
18, 19
AV6xx
Active subwoofer
AR6xx
Surround module
ICa1
ICa3
ICr2
ICr1
I/O3
I/O4
I/O1
I/O2
D1
D0
D2
D3
BLAN
RGB
A0-A9
CVBS
Sc HA
ICt1
RGB
fb
BC
bcl
Y
sc
ICh1 CRT module HH6xx
VM6xx
SVM module
SVM coil
ICq1
Scart 1
Scart 2
Camera
PIP module
CVBS/Y
ICd1
ICd2
ICd3
HA
V
U
Y
SC
H-Drive
EW
Ver
Sc Ver
PP6xx
PIP module
RGB/BL
Scart 1
CF6xx
Comb filter module
WS6xx
SAT tuner
Video block
Sound block
SAT module
Scart 3
J3
J1, J2
(sound)
Camera
CVBS out
Scart 1
ICs1
Vetical deflection yoke
140V
Mk1
Tk3
Line driver Tk1, Tk2
Flyback
Diode modulation Dk7, Dk8
Horizontal deflection yoke


Mk1
Tk3
Line driver
CRT-module HHxxx
G2
Focus
Heater
500V
8 kV
6.3V RMS
200V
30kV
Rk2
Dk1
Rk4
SVM module
12V-p
Rk9
Dk2
50V
Rk19
Dk3
Rk5
Rk15
Rk6
16V
Vert.deflection & EW driver ICs1
140V
Ro41
7V
28V
IF-module LLxxx
PIF ICl1
SIF ICl2
Video Switch ICq1
HP-Ampl. ICa3
10V
DZq1
12V-r
ROM ICf1
NVM ICf2
µP ICf3
Service conn. & buffer
Rq48
ICo4
5V-stb
FC-module FCxxx
IR-receiver
5V-stb
12V-p
ARxxx
Surround-Amplifiers
PROLOGIC DSP56004
switch
12V-p
5V-r
Ra 18
LS-Ampl. ICa1
switch
AVxxx
Active subwoofer
12V-p
Do3
Do1
Fo1
Mo2
Do12
Do4
Do2
Co23
Ro1
SW1
Ro13, 14, 15
Co2
F1
230V 50Hz
Ro23
Do5
Co17
Do6
Co15
ro22
ICo1
Ro24
To1
Do18
do17
Ro80-82
To3, To10
Co16
ICo2
Rk11, 12 13, 14
Do11
Ro44
Do8
Fo4
Do16
Po1
Ro47
Fo2
Do13
Fo3
Do14
Ro33
ICo8
Ro34
To2
ICo7
To5
To6
28V
17V
Ro72
Ro71
7V-sat
P_ON
Mains non isolated
TV-Tuner
30V
DZk1
ICo6
7V
to9
R_ON
Sound processor ICa2
DZa1
Scart-buffers
Adj. Audio & S-video Out
5V-r
PIP-module PPxxx
Deco / Sync TDA9141
PIP SDA9187
5V-r
8V-p
12V-p
TXT ICr1
RAM ICr2
Delay ICd3
CFxxx Comb-Filter
12V-r
To4
12V-p
to7
P_on
ICo3
Deco/Sync ICd1
CTI ICd2
RGB-proc. ICt1
8V-p
To8
WSxxx
SAT UNIT
12V-r
17V
28V
7V-sat


I²C
10, 11
TV-tuner
Subwoofer module
Subwoofer 5
9, 10
Sound proces. ICa2
AUDIO FEATURE BOX
26, 35
Surround processor IC1
36
9
24
4
MSP Reset 4
6
SUBW. IDENT
DSP Reset
IF-MODULE
M L S
AFC AGC
4 5 8 6 14
Deco/Deflection ICd1
4, 5
Comb Filter module
7, 8
SAT-MODULE
Magn.Pol
POL
SAT-tuner
13, 14
5, 6
NVM
31 30 29 48 32 17
M L S PWM
33 PWM
µP ICf3
53 NTSC
52 ByPass 1
55 S-VHS 13
COMB. IDENT
22, 23
SDA
SCL
Video & Sound IC
DA0
IO1
IO2
S1
S2
S3
15 LNB-supply
9 EXT-SOUND
10 22 kHz
4
3
2
SW.
PPV
VXS
VX CMD
8
Scart
Status 3 51
A/D
49 A/D Status 2
50 A/D Status 1
54 RGB Status
20 Hold
UART
36, 43, 44
49, 50, 51
TXT ICr1
5, 6
NVM ICf2
2, 4
Video Switch ICq1
27, 28
RGB processor ICt1
38 41 42 21 39
HP ind
+5V
Rec / IR
Local control
Card reader
CARD A/B
Videocrypt
11
6
3
RC Receiver
PIP-MODULE
(SYSTEM SELECT) BG/L 5
(INPUT SELECT) Rf/E.. 4
PIP-tuner
3,4
SCART FB enable 16
PIP SWITCH 15
5, 6
Deco/Sync ICp3
15, 16
PIP ICp6
4
Control connector
5, 6

OPERATING INSTRUCTIONS

A menu



Language selection

1. Press the MENU button (under the lid).
2. Select the INSTALLATION with the cursor buttons (up-/downwards) and press the OK button.
3. Select the LANGUAGE and press the OK button.
4. Select the desired language and press the OK button.
5. Press the TV button to exit.

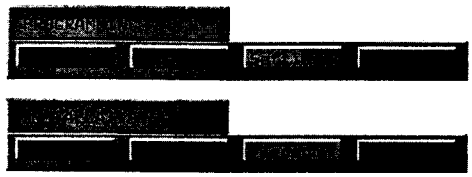
Manual tuning

1. Select programme number you want to tune.
2. Press the MENU button.
3. Select MANUAL TUNING and press the OK button.
4. Press red button (SEARCH).
5. Press the OK button to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the MENU button.
2. Select INSTALLATION and press the OK button.
3. Select REPROGRAMMING and press the OK button.
4. To retune the channels, press the OK button.
5. Press the TV button to exit.

B menu



Language selection

1. Press the PRG button.
2. Select the Install by pressing the blue button.
3. Select the Language by pressing the red button.
4. Select the desired language with the cursor buttons and press the OK button.
5. Press the TV button to exit.

Manual tuning

1. Press the PRG button.
2. Press the red button (Tune).
3. Press the red button (Search).
4. Select the prog. number on which the channel is to be stored.
5. Press the blue button (Store) to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

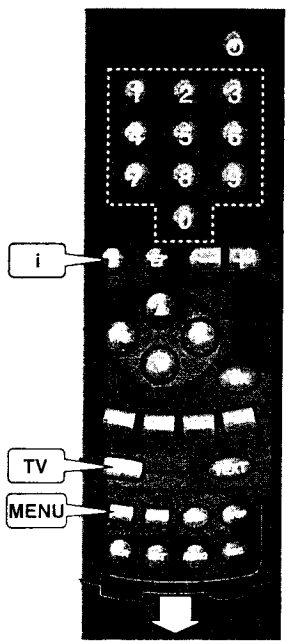
1. Press the PRG button.
2. Press the blue button (Install).
3. Press the yellow button (Reprog).
4. Press the red button (APSi).
5. Press the green button (Reprog).
6. Press the blue button (OK) to exit.

SERVICE ADJUSTMENTS

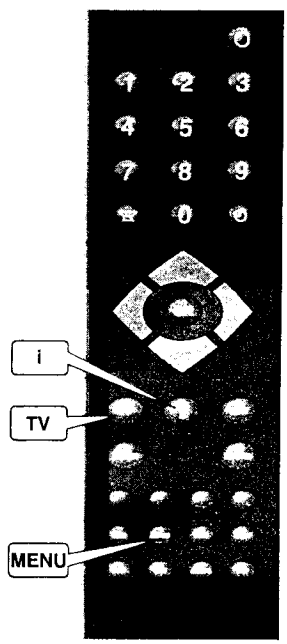
SERVICE MODE SELECTION

Switch on the receiver by pressing the mains switch and within 5 s. press the remote control buttons MENU, TV and "i" successively.

A menu



B menu

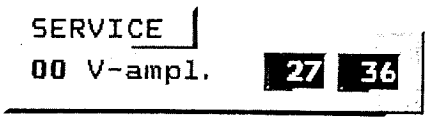


SERVICE ADJUSTMENTS

SERVICE MODE SELECTION

1. The receiver is set to the service mode by switching on the receiver with the main switch and within 5 seconds pressing the remote control buttons MENU, TV and "i" successively.

Note! If the receiver remains in stand by mode after selecting the service mode, switch on the receiver by pressing the TV button twice and select the service mode by pressing the "i" button.



In the service mode an adjustment menu (including the adjustment number and name, initializing (left) and adjustment (right)) values is shown on the screen.

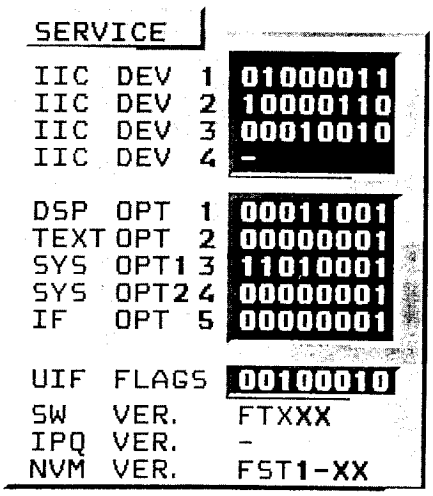
2. Return from the service mode by switching off the receiver with the main switch.

CONFIGURATION AND FAULT DIAGNOSIS

The set must be configurated after adding or removing some options. By pressing the RED button in the service mode, the processor checks all possible addresses of bus driven circuits and shows the settings on the screen.
This feature can also be used in fault finding; if an option bit is not '1' when it should be, the IC is either not present or faulty. In the configuration mode it is possible to enable/disable options for testing purposes.

Changing of option bytes

1. When in service mode, select the configuration mode by pressing the RED button.



Description
SW VER. = µP software version.
IPQ VER. = -
NVM VER. = NVM software version.

2. Select IIC Device byte 1 - 4 or Option byte 1 - 5 with the cursor button (up-/downwards). Selected byte is shown highligthed.
3. Set the bits with the number buttons (0 ... 7).
4. Store the settings by pressing the OK button.
5. Return to the service mode by pressing the RED button again.

OPTION BYTE DESCRIPTIONS

Option bits to be set automatically:

Bit	Description	Setting	'1'	'0'
		7 6 5 4 3 2 1 0		
		IIC DEV 1 01000011		
0	TV tuner		Yes	No
1	Decoder TDA9162		Yes	No
5	RGB processor TDA4780		Yes	No
6	Video switch TDA6417		Yes	No
7	PIP controller SDA9188		Yes	No
		IIC DEV 2 10000110		
0	PIP tuner		Yes	No
1	RGB processor TDA4680		Yes	No
2	Megatext SDA5273		Yes	No
7	MSP3400 / 3410		Yes	No
		IIC DEV 3 00010010		
0	DSP (surround)		Yes	No
1	Subwoofer		Yes	No
4	Comb filter (SVHS line low)		Yes	No
		DSP OPT 1 00011001		
0 - 3	Loudspeaker configuration (Set in user mode)			
		TEXT OPT 2 00000001		
0	TXT with external RAM		Yes	No
		SYS OPT1 3 11010001		
4	NTSC 3.58 MHz		Yes	No
		IF OPT 5 00000001		
0	B/G system		Yes	No
1	I system		Yes	No
2	D/K system		Yes	No
3	L/L' system		Yes	No
5	Baseband		Yes	No

Option bits to be set manually:

Bit	Description	Setting	'1'	'0'
		DSP OPT 1 00110000		
4	Bass splitting (normally yes)		Yes	No
6	Pre-equalization for E and B2 cabinet		Yes	No
		TEXT OPT 2 00000100		
2	Flof text enabled		Yes	No
		SYS OPT1 3 11000001		
0	Camera connector installed		Yes	No
6	NICAM enabled		Yes	No
7	Loudness enabled		Yes	No
		IF OPT 5 10000000		
7	Only UHF tuner		Yes	No
		UIF FLAGS 01100010		
4	OEM option		Yes	No

Remote control buttons in service mode

When the receiver is in the service mode you can select the normal TV mode by pressing the TV button and return to the service mode by pressing the i button.
Number and cursor buttons are used for service adjustment. The yellow button hides temporarely the service menu. The OK button stores the settings.

Note! Before other adjustments U1 voltage must be adjusted.

Making the service adjustment

1. Give a two numbered code which determines the adjustment (e.g. 05 = horizontal phase, see the following tables) with the number buttons.

Note! The adjustments can also be selected with the cursor button (up-/downwards).

2. Adjust with the cursor button (left/right).

3. Store the new value by pressing the OK button.

Note!
- To avoid incomplete adjustments store each adjustment in the memory immediately after adjusting.

VERTICAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
Vertical off-centre shift	01	V-shift	25	Adjust the colour edge to the center of the picture.
Vertical amplitude	00	V-ampl.	21	Adjust the upper part of the picture to correct ration.
Vertical slope	02	V-slope	33	Adjust the lower part of the picture to correct ration.
Vertical S-correction	03	S-corr.	45	

HORIZONTAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
EW width	04	Width	48	
Horizontal phase	05	H-shift	43	
Horizontal phase RGB				In addition make same adjustment by using RGB signal.
EW parabola	06	Parabola	26	
EW corner	07	Corner	26	
EW trapezium	08	Trapezium	30	

OTHER ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
Red reference	20	R ref.	32	*Note! This procedure is necessary e.g. when the picture*
Green reference	21	G ref.	32	*tube, CRT-module etc. has been replaced.*
Blue reference	22	B ref.	32	*Apply a test picture and adjust the R, G and B references. Then adjust the R, G and B gains.*
Red gain	17	R gain	32	
Green gain	18	G gain	32	
Blue gain	19	B gain	32	
Peak white limit	23	PWL	63	Normally no need to adjust.
Tuner AGC	25	TV AGC	160	Apply a 1 mV (60 dBµV) test signal. Adjust the picture just without noise.

O POWER SUPPLY BLOCK

U1 voltage and protection circuit

1. Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Do11.
2. Adjust with Po1 the DC voltage (U1) for +140 V or +136 V (±1 V) depending on the picture tube type, look at the schematic diagram.
3. Check the over-current protection after making any service operations in the primary circuit of the power supply. Set the receiver to the stand-by mode. Short circuit the cathode of Do 13 to the ground and keep the short circuit connected. When the over-current protection works correctly, the power supply stops. Remove the short circuit and switch on the receiver by pressing the mains button.

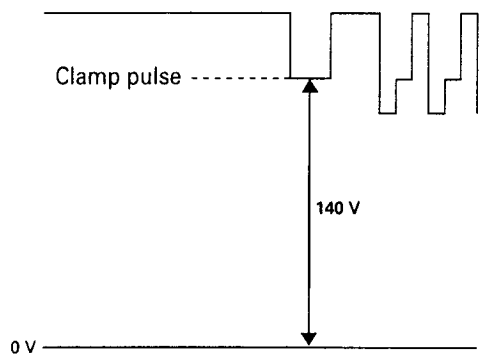
K HORIZONTAL DEFLECTION BLOCK

Focusing

Set brightness and contrast to normal level. Use cross hatch pattern and adjust the picture for optimum resolution.

Ug2 voltage (Screen grid voltage)

1. Set contrast to minimum, brightness and colour saturation to normal level.
2. At the end of the vertical blanking, there is a black current measurement pulse (clamp pulse) at pins 9, 12 and 15 of ICh1. Use an oscilloscope and find the output stage with the highest cut-off (ie. the highest voltage during the black current measurement pulse).
3. Adjust the voltage of the clamp pulse to +140 V with Ug2 (see figure).



Note! Adjust the voltage with clamp pulse.

LL PICTURE AND SOUND IF MODULE

Video demodulator

1. Apply a test signal (1mV = 60 dBµV).
2. Connect an universal voltmeter to the module connector X1 pin 6.
3. Adjust with LL6 the DC voltage to the point where it changes from 0 to 3.5 V.

Sound demodulator

1. Apply a CCIR B/G standard (FM modulated sound) test signal.
2. Connect a universal voltmeter to ICl1 pin 13.
3. Adjust with LL1 the DC voltage for +3.7 V.

NVRAM (ICf2)

Installation of NVRAM

In case that the NVRAM is replaced, it must be initialized and configurated.

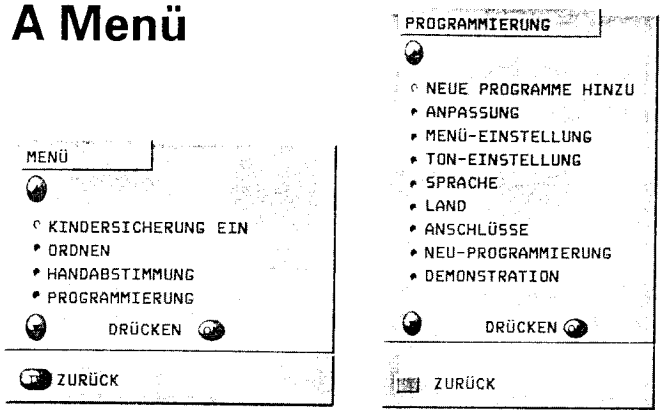
1. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively.
   Note! The receiver is in the service mode although it looks like the receiver is in stand-by mode!
2. Initialize the NVRAM by pressing the RED button. The green LED flashes once. Wait approx. 15 s. When the initialization is completed, the green LED will ligth up.
3. Switch off the receiver by pressing the mains switch.
4. Start the receiver to the TV mode by pressing the main switch. Tune in one or more tv channels.
5. Switch off the receiver by pressing the mains switch.
6. Start the receiver into the service mode. If the receiver remains in stand-by mode, press the TV button twice and then press the "i" button.
7. Configurate the receiver by pressing the RED button. The configuration menu will show up.
8. Press the OK button.
9. Make all the service adjustments (see section "SERVICE ADJUSMENTS VIA IIC BUS").
10. Switch off the receiver by pressing the mains switch.

Re-initialization of NVRAM

For example when the receiver doesn't start to normal picture, the NVRAM may need re-initialization.

1. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively.
   Note! The receiver is in the service mode although it looks like the receiver is in stand-by mode!
2. Select the initialization of the NVRAM by pressing the RED button. The green LED will ligth up. Wait approx. 2 s. and there after press the BLUE button. Again wait approx. 2 s. and there after press the numbered buttons 2, 5 and 4 successively. Wait approx. 2 s.
3. Press the OK button to initialize the NVRAM. Initialization will take approx. 15 s
4. Switch off the receiver by pressing the mains switch.
5. Start the receiver to the TV mode by pressing the main switch. Tune in one or more tv channels.
6. Switch off the receiver by pressing the mains switch.
7. Start the receiver into the service mode. If the receiver remains in stand-by mode, press the TV button twice and then press the "i" button.
8. Configurate the receiver by pressing the RED button. The configuration menu will show up.
9. Press the OK button.
10. Make all the service adjustments (see section "SERVICE ADJUSMENTS VIA IIC BUS").
11. Switch off the receiver by pressing the mains switch.

A Menü



Sprach Auswahl

1. Drücken Sie die Taste MENU.
2. Wählen Sie die Option PROGRAMMIERUNG durch Drücken der Cursor-Taste (auf-/abwärts) und drücken Sie die Taste OK.
3. Wählen Sie die Option SPRACHE und drücken Sie die Taste OK.
4. Wählen Sie die gewünschte Sprache und drücken Sie die Taste OK.
5. Drücken Sie die Taste TV.

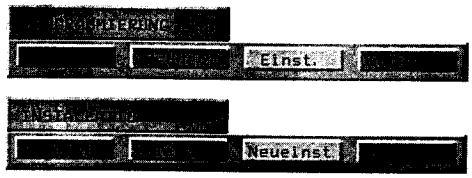
Manuelle Abstimmung

1. Wählen Sie die Programm-Nummer, die Sie abstimmen wollen.
2. Drücken Sie die Taste MENU.
3. Wählen Sie die Option HANDABSTIMMUNG und drücken Sie die Taste OK.
4. Starten Sie den Kanalsuchlauf durch Drücken der roten Taste.
5. Die Speicherung erfolgt durch Drücken der Taste OK.
6. Durch Drücken der Taste TV kehren Sie zum normalen Fernsehempfang zurück.

APSi

1. Drücken Sie die Taste MENU.
2. Wählen Sie die Option PROGRAMMIERUNG und drücken Sie die Taste OK.
3. Wählen Sie die Option NEUPROGRAMMIERUNG und drücken Sie die Taste OK.
4. Starten Sie den Kanalsuchlauf durch Drücken der Taste OK.
5. Durch Drücken der Taste TV kehren Sie zum normalen Fernsehempfang zurück.

B Menü



Sprach Auswahl

1. Drücken Sie die Taste PRG.
2. Wählen Sie Install. durch Drücken der blauen Taste.
3. Wählen Sie Sprache durch Drücken der roten Taste.
4. Wählen Sie die gewünschte Sprache mit der Cursor-Taste (auf-/abwärts) und drücken Sie die Taste OK.
5. Drücken Sie die Taste TV.

Manuelle Abstimmung

1. Drücken Sie die Taste PRG.
2. Drücken Sie die rote Taste (Abstimm.).
3. Drücken Sie die rote Taste (Suchen).
4. Wählen Sie die Pr. Nummer unter der neue Kanal abgespeichert werden soll.
5. Drücken Sie die blaue Taste (Speicher).
6. Durch Drücken der Taste TV kehren Sie zum normalen Fernsehempfang zurück.

APSi

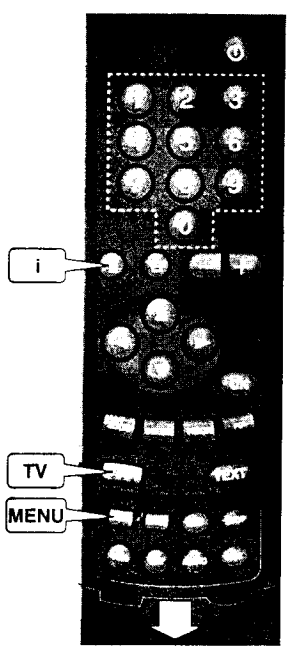
1. Drücken Sie die Taste PRG.
2. Drücken Sie die blaue Taste (Install.).
3. Drücken Sie die gelbe Taste (Neuinst.).
4. Drücken Sie die rote Taste (APSi).
5. Drücken Sie die grüne Taste (Neuinst.).
6. Drücken Sie die blaue Taste (OK) zum Beenden.

SERVICE-EINSTELLUNGEN

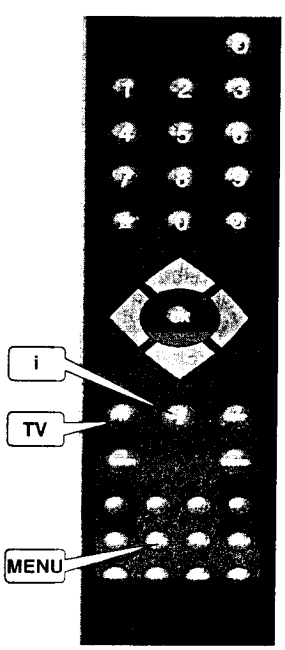
WAHL DES SERVICE-MODUS

Einschalten Sie das Gerät mit dem Netzschalter und innerhalb 5 Sekunden Drücken Sie nacheinander die Fernbedienungstasten MENU, TV und "i".

A Menü



B Menü

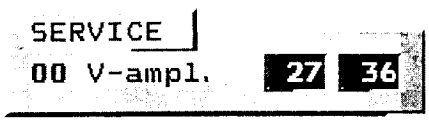


SERVICE-EINSTELLUNGEN

WAHL DES SERVICE-MODUS

1. Den Empfänger setzen Sie in den Service-Modus, indem Sie das Gerät mit dem Netzschalter einschalten und innerhalb von 5 Sekunden die Fernbedienungstasten MENU, TV und "i" nacheinander drücken.

Hinweis! Bleibt der Empfänger nach Wahl des Service-Modus in Betriebsbereitschaft, ist das Gerät einzuschalten, indem Sie die Taste TV zweimal drücken und den Service-Modus durch Drücken der Taste "i" bestätigen.



Im Service-Modus wird auf dem Bildschirm ein Einstellungsmenü mit den Werten von Initialisierung (links) und Einstellung (rechts) (einschließlich der Nummer und der Bezeichnung der Einstellung) angezeigt.

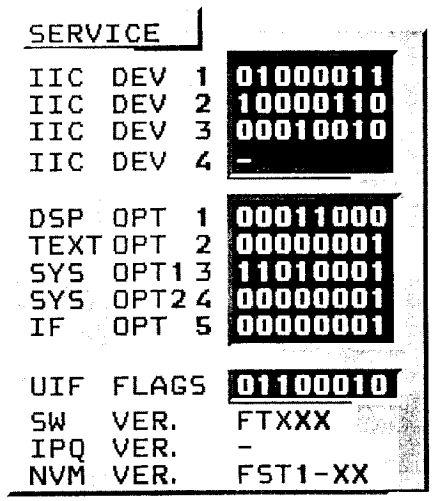
2. Den Service-Modus verlassen Sie, indem Sie den Empfänger mittels des Netzschalters ausschalten.

KONFIGURATION UND FEHLERDIAGNOSE

Das Gerät muß nach Einbau oder Ausbau einiger Features konfiguriert werden. Indem Sie die ROTE Taste im Service-Modus drücken, prüft der Prozessor alle möglichen Adressen der busgesteuerten Schaltkreise und zeigt die Einstellungen auf dem Bildschirm an.
Dieses Feature kann auch zur Fehlersuche genutzt werden: Wenn ein Option-Bit, das "1" sein sollte, nicht "1" ist, dann ist das entsprechende IC entweder nicht vorhanden oder defekt. Für Testzwecke ist es im Konfigurationsmodus möglich verschiedene Optionen ein- oder auszuschalten.

Änderung der Options-Bytes

1. Wählen Sie im Service-Modus den Konfigurationsmodus, indem Sie die ROTE Taste drücken.



Beschreibung
SW VER. = µP Software-Version.
IPQ VER. = -
NVM VER. = NVM Software-Version

2. Wählen Sie Byte 1 - 4 des IIC-Bausteins oder das Options-Byte 1 - 5 mit den Cursortasten (aufwärts/abwärts). Das gewählte Byte wird hervorgehoben.
3. Setzen Sie die Bits mit den Zifferntasten (0 ... 7).
4. Speichern Sie die Einstellungen durch Drücken der Taste OK ab.
5. Rufen Sie den Service-Modus durch erneutes Drücken der roten Taste auf.

BESCHREIBUNGEN DER OPTIONS-BYTES

Setzen der Option-Bits automatisch:

Bit	Beschreibung	Einstellung	'1'	'0'
		7 6 5 4 3 2 1 0		
		IIC DEV 1 01111011		
0	TV-Tuner		Ja	Nein
1	Decoder TDA9162		Ja	Nein
5	RGB-Prozessor TDA4780		Ja	Nein
6	Video-Schalter TDA6417		Ja	Nein
7	PIP-Steuerung SDA9188		Ja	Nein
		IIC DEV 2 10000100		
0	PIP-Tuner		Ja	Nein
1	RGB-Processor TDA4680			
2	Megatext SDA5273		Ja	Nein
7	MSP3400 / 3410		Ja	Nein
		IIC DEV 3 00010010		
0	DSP (Surround)		Ja	Nein
1	Subwoofer		Ja	Nein
4	Kamm-Filter (SVHS-Eingang aus)		Ja	Nein
		DSP OPT 1 00001000		
0 - 3	Lautsprecher-Konfiguration (eingestellt im Benutzer-Modus)			
		TEXT OPT 2 00000001		
0	TXT mit externen RAM		Ja	Nein
		SYS OPT1 3 11010001		
4	NTSC 3.58 MHz		Ja	Nein
		IF OPT 5 00000001		
0	B/G-System		Ja	Nein
1	I-System		Ja	Nein
2	D/K-System		Ja	Nein
3	L/L'-System		Ja	Nein
5	Baseband		Ja	Nein

Setzen der Option-Bits manuell:

Bit	Beschreibung	Einstellung	'1'	'0'
		DSP OPT 1 00110000		
4	Bass-Splitting		Ja	Nein
6	DSP-Surround für Lautsprecher-Vorentzerrung		Ja	Nein
		TEXT OPT 2 00000100		
2	Flof-TXT aktiviert		Ja	Nein
		SYS OPT1 3 11000001		
0	Kamera-Eingang installiert		Ja	Nein
6	NICAM aktiviert		Ja	Nein
7	Loudness aktiviert		Ja	Nein
		IF OPT 5 10000000		
7	Nur UHF-Tuner		Ja	Nein
		UIF FLAGS 01100010		
4	OEM-Option		Ja	Nein

SERVICE-EINSTELLUNGEN ÜBER IIC-BUS

Fernbedieningstasten im Service-Modus

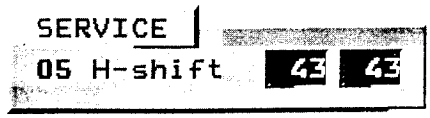
Befindet sich der Empfänger im Service-Modus, können Sie durch Drücken der Taste TV in den normalen TV-mode wechseln und zum Service-Modus durch Betätigen der Taste i zurückkehren.
Die Ziffern- und Cursortasten verwenden Sie für die Service-Einstellungen. Die gelbe Taste blendet das Service-Menü vorübergehend aus. Mit der Taste OK speichern Sie die Einstellungen ab.

Achtung! Vor dem Abgleich U1-Einstellung überprüfen.

Service-Einstellung vornehmen

1. Geben Sie einen zweiziffrigen Code ein, mit dem die Einstellung festgelegt ist (z. B. 05 = horizontale Lage; siehe folgende Tabellen). Benutzen Sie dazu die Zifferntasten.

Hinweis! Die Einstellungen können Sie auch mit den Cursortasten (aufwärts/abwärts) wählen.



2. Nehmen Sie die Einstellungen mit den Cursortasten (links/rechts) vor.

3. Speichern Sie den neuen Wert durch Betätigung der Taste OK ab.

Hinweis!
- Zur Vermeidung unvollständiger Einstellungen speichern Sie jede Einstellung sofort, nachdem diese vorgenommen wurde, ab.

VERTIKALE BILDEINSTELLUNGEN

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Vertikale Lage	01	V-shift	25	Stellen Sie den Farbübergang auf die Bildmitte ein.
Vertikale Amplitude	00	V-ampl.	21	Stellen Sie den oberen Bildteil auf das richtige Verhältnis ein.
Vertikale Slope	02	V-slope	33	Stellen Sie den unteren Bildteil auf das richtige Verhältnis ein
Vertikale Linearität	03	S-corr.	45	

HORIZONTALE BILDEINSTELLUNGEN

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Bildbreite	04	Width	48	
Horizontale Lage	05	H-shift	43	
Horizontale Lage, RGB				Zusätzlich dieselben Einstellungen mit dem RGB-Signal vornehmen.
OW-Kissen	06	Parabola	26	
OW-Ecken Korrektur	07	Corner	26	
OW-Trapez	08	Trapezium	30	

WEITERE EINSTELLUNGEN

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Rot-Referenz	20	R ref.	32	*Hinweis! Dieser Abgleich wird erforderlich wenn z. B. die*
Grün-Referenz	21	G ref.	32	*Bildröhre, die Bildröhrenplatte etc. gewechselt wurden.*
Blau-Referenz	22	B ref.	32	*Testbild einspeisen und die R-, G- und B-Referenzwert einstellen. Danach die R-, G- und B-Verstärkung*
Rotverstärkung	17	R gain	32	*einstellen.*
Grünverstärkung	18	G gain	32	
Blauverstärkung	19	B gain	32	
Oberer Grenzwert weiß	23	PWL	63	Normalerweise keine Einstellung erforderlich.
Tuner-AGC	25	AGC	160	Ein 1 mV (60 dBµV) Testsignal aufschalten. Bild ohne Rauschen einstellen.

O NETZTEIL

Versorgungsspannung U1 und Schutzschaltung

1. Setzen Sie die Helligkeit und den Kontrast auf den normalen Pegel. Schließen Sie ein Universal Voltmeter an die Kathode von Do11 an.
2. Stellen Sie die Gleichspannung (U1) mit Po1 auf +140 V oder 136 V (±1 V) ein (von der Bildröhren abhängig, siehe Schaltpläne).
3. Nach Reparaturen am Primärkreis des Netzteils muß die Überstrom-Sicherung geprüft werden. Schalten Sie das Gerät in den Stand-by Modus. Schließen Sie die Kathode von Do13 nach Masse kurz. Wenn die Überstrom-Sicherung korrekt funktioniert, schaltet das Netzteil ab. Entfernen Sie den Kurzschluß und schalten Sie das Gerät mit dem Netzschalter ein.

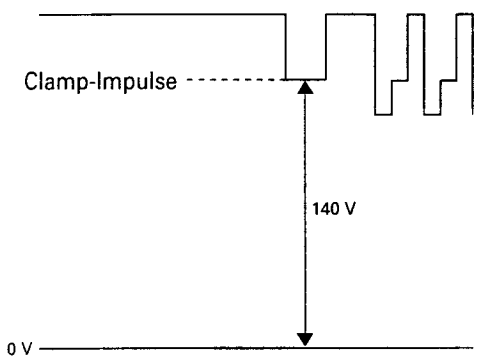
K HORIZONTAL ABLENKUNG

Fokussierung

Stellen Sie die Helligkeit und den Kontrast auf normalen Pegel ein. Stellen Sie dann anhand der Schraffur das Bild auf optimale Schärfe ein.

Bildschirm-Gitterspannung

1. Setzen Sie den Kontrast auf minimalen sowie die Helligkeit und die Farbsättigung auf normalen Pegel.
2. Prüfen Sie mit einem Oszilloskop die Amplitude der Clamp-Impulse des eingefügten Schwarzpegels während der 3. Zaile nach der vertikaler Schwarztastung am ICh1 Pinnen 9, 12 und 15.
3. Stellen Sie mit Ug2 die Amplitude des höchsten Clamp-Impulses auf +140 V ein (siehe Abbildung).



Hinweis! Die Spannung auf die Clamp-Impulse einzustellen.

LL BILD UND TON, ZF MODUL

Video-Demodulator

1. Schalten Sie ein Testsignal auf (1 mV = 60 dBµV).
2. Schließen Sie ein Universal Voltmeter an den Steckverbinder X1, Pin 6 an.
3. Stellen Sie mit LL6 die Gleichspannung auf den Wert ein, bei dem von 0 auf 3.5 V übergegangen wird.

Ton-Demodulator

1. Schalten Sie ein CCIR B/G Standard Testsignal auf (frequenzmodulierter Ton).
2. Schließen Sie ein Universal Voltmeter an ICl1, Pin 13 an.
3. Stellen Sie mit LL1 die Gleichspannung auf +3.7 V ein.

NVRAM (ICf2)

Initialisierung des NVRAM

Das ICf2 (NVRAM) muß nach Austausch initialisiert und konfiguriert werden.

1. Schalten Sie das Gerät Mit dem Netzschalter ein und drücken Sie, um in den Service-Mode zu gelangen, innerhalb 5 sec. nacheinander die Tasten MENU, TV und "i". Hinweis! Der Empfänger ist im Service-Mode, auch wenn es so aussleht, als befände sich das Gerät im Stand-by Modus.
2. Das NVRAM durch Drücken der roten Taste initialisieren. Die grüne LED leuchtet einmal auf. Warten Sie ungefähr 15 sec. Wenn die Initialisierung beendet ist, leuchtet die grüne LED ständig.
3. Das gerät mit dem Netzschalter ausschalten.
4. Schalten Sie das Gerät wieder ein und drücken Sie dann, um in den TV-Modus zu gelangen, die TV-Taste. Speichern Sie einen oder mehrere TV-Kanäle ein.
5. Schalten Sie das Gerät mit dem Netzschalter aus.
6. Schalten Sie das Gerät in den Service-Mode (siehe oben). Falls das Gerät im Stand-by Modus bleibt drücken Sie zweimal die TV-Taste und danach die "i"-Taste.
7. Konfigurien Sie das Gerät durch Drücken der roten Taste. Das Konfigurationsmenü wird angezeigt.
8. Drücken Sie die OK-Taste.
9. Führen Sie die Service-Einstellungen durch (siehe Kapitel "SERVICE-EINSTELLUNGEN ÜBER IIC-BUS").
10. Schalten Sie das Gerät mit dem Netzschalter aus.

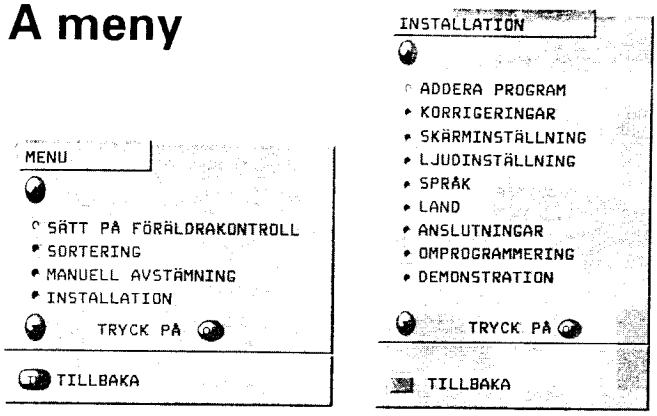
Re-Initialisierung des NVRAM

Falls das Gerät nicht anläuft oder kein normales Bild erscheint, sollte das NVRAM re-initialisiert werden.

1. Schalten Sie das Gerät Mit dem Netzschalter ein und drücken Sie, um in den Service-Mode zu gelangen, innerhalb 5 sec. nacheinander die Tasten MENU, TV und "i". Hinweis! Der Empfänger ist im Service-Mode, auch wenn es so aussleht, als befände sich das Gerät im Stand-by Modus.
2. Wählen Sie durch Drücken der roten Taste das Initialisieren des NVRAM. Die grüne LED stetig leuchtet. Warten Sie etwa 2 sec. und drücken Sie dann die blaue Taste. Warten Sie wieder ca. 2 sec. und drücken Sie dann nacheinander die Ziffer-Tasten 2, 5 und 4. Warten Sie etwa 2 sec.
3. Drücken Sie die OK-Taste um das NVRAM zu initialisieren. Die Initialisierung dauert ca. 15 sec.
4. Schalten Sie das Gerät mit dem Netzschalter aus.
5. Schalten Sie das Gerät wieder ein und drücken Sie dann, um in den TV-Modus zu gelangen, die TV-Taste. Speichern Sie einen oder mehrere TV-Kanäle ein.
6. Schalten Sie das Gerät mit dem Netzschalter aus.
7. Schalten Sie das Gerät in den Service-Mode (siehe oben). Falls das Gerät im Stand-by Modus bleibt drücken Sie zweimal die TV-Taste und danach die "i"-Taste.
8. Konfigurien Sie das Gerät durch Drücken der roten Taste. Das Konfigurationsmenü wird angezeigt.
9. Drücken Sie die OK-Taste.
10. Führen Sie die Service-Einstellungen durch (siehe Kapitel "SERVICE-EINSTELLUNGEN ÜBER IIC-BUS").
11. Schalten Sie das Gerät mit dem Netzschalter aus.

BRUKSANVISNING

A meny



Språkval

1. Tryck på MENU-knappen.
2. Välj INSTALLATION med markörknapparna (upp-/nedåt) och tryck på OK.
3. Välj SPRÅK och tryck på OK.
4. Välj önskat språk och tryck på OK.
5. Tryck på TV för att lämna språkvalet.

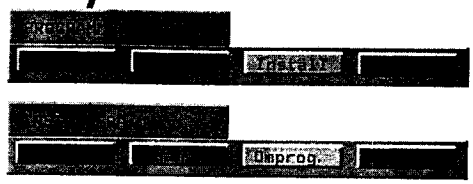
Manuell avstämning

1. Välj programplatsen som du vill avstämma.
2. Tryck på MENU-knappen.
3. Välj MANUELL AVSTÄMNING och tryck på OK-knappen.
4. Starta programsökning genom att trycka på den röda färgknappen.
5. Spara i minnet genom att trycka på OK-knappen.
6. Välj normalt TV-läge genom att trycka på TV-knappen.

APSi

1. Tryck på MENU-knappen.
2. Välj INSTALLATION och tryck på OK-knappen.
3. Välj OMPROGRAMMERING och tryck på OK-knappen.
4. Avstäm kanaler på nytt genom att trycka på OK-knappen.
5. Välj normalt TV-läge genom att trycka på TV-knappen.

B meny



Språkval

1. Tryck på PRG-knappen.
2. Välj Install genom att trycka på den blåa knappen.
3. Välj Språk genom att trycka på den röda knappen.
4. Välj önskat språk med markörknapparna (upp-/nedåt) och tryck på OK.
5. Tryck på TV för att lämna språkvalet.

Manuell avstämning

1. Tryck på PRG-knappen.
2. Tryck på den röda knappen (Avstäm).
3. Tryck på röda knappen (Sök).
4. Välj programplatsen som programmet skall sparas på.
5. Tryck på den blåa knappen (Spara).
6. Välj normalt TV-läge genom att trycka på TV-knappen.

APSi

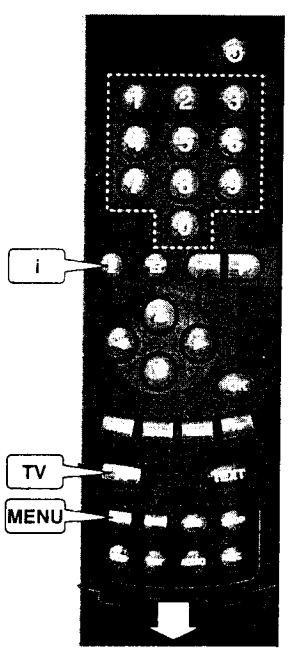
1. Tryck på PRG-knappen.
2. Tryck på den blåa knappen (Install.).
3. Tryck på den gula knappen (Omprog.).
4. Tryck på den röda knappen (APSi).
5. Tryck på den gröna knappen (Omprog.).
6. Tryck på den blåa knappen (OK) för att avsluta.

SERVICEINSTÄLLNINGAR

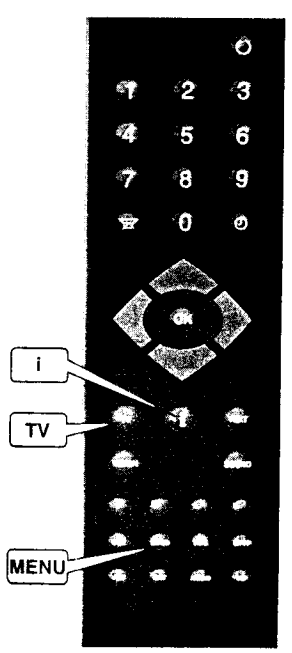
VAL AV SERVICE-LÄGE

Slå på mottagaren med huvudströmbrytaren och inom 5 s. tryck på fjärrkontrollens MENU-, TV- och "i"-knappar succesivt.

A meny



B meny

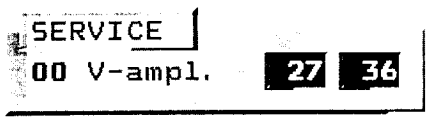


SERVICEINSTÄLLNINGAR

VAL AV SERVICE-LÄGE

1. Ställ mottagaren i service-läge genom att koppla på den med strömbrytaren och tryck inom 5 sekunder på fjärrkontrollens MENU-, TV- och i-knappar.

Obs! Om mottagaren förblir i beredskapsläge, efter det att man har valt service-läge, koppla på mottagaren genom att trycka två gånger på TV-knappen och välj service-läge med i-knappen.



I service-läge visas service-menyn (som inkluderar justeringens nummer och namn, initialiserings- (vänster) och justeringsvärde (höger)) på bildskärmen.

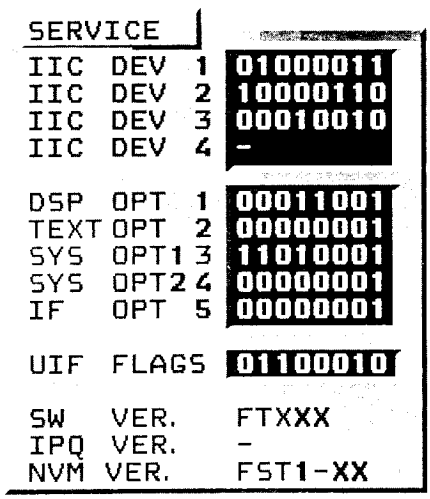
2. Återställ TV:n till normalt användarläge genom att stänga av mottagaren med strömbrytaren.

KONFIGURATION OCH FELSÖKNING

Apparaten måste alltid konfigureras efter att man gör ingrepp som ändrar dess funktion. När man trycker på den röda färgknappen, när apparaten är i service-läge, kontrollerar prosessorn alla adresser för busstyrda kretsar och visar inställningen på bildskärmen.
Denna funktion kan även användas till felsökning. När en optionbit inte är "1" när den skall vara det, är IC:n inte monterad eller så är den defekt. I konfigureringsläge kan man aktivera/stänga av egenskaper för testbehov.

Ändring av Option byte

1. Välj konfiguration genom att trycka på den röda färgknappen (när apparaten står i service-läge).



Förklaring
SW VER. = µP programversion.
IPQ VER. = -
NVM VER. = NVM programversion.

2. Välj IIC Device byte 1 - 4 eller Option byte 1 - 5 med markörknapparna (upp-/nedåt). Vald byte visas med avvikande färg.
3. Ställ in önskad optionbit med sifferknapparna (0...7).
4. Spara inställningen med OK-knappen.
5. Återgå till service-läge genom att trycka på den röda färgknappen igen.

OPTIONBYTE FÖRKLARINGAR

Optionbits som ställs in automatiskt.

Bit	Förklaring	Inställning	'1'	'0'
		7 6 5 4 3 2 1 0		
		IIC DEV 1 01000011		
0	TV-tuner		Ja	Nej
1	Dekoder TDA9162		Ja	Nej
5	RGB-prosessor TDA4780		Ja	Nej
6	Videoswitch TDA6417		Ja	Nej
7	PIP-kontroller SDA9188		Ja	Nej
		IIC DEV 2 10000110		
0	PIP-tuner		Ja	Nej
1	RGB-prosessor		Ja	Nej
2	Megatext SDA5273		Ja	Nej
7	MSP3400 / 3410		Ja	Nej
		IIC DEV 3 00010010		
0	DSP (surround)		Ja	Nej
1	Subwoofer		Ja	Nej
4	Comb-filter (SVHS-linjen låg)		Ja	Nej
		DSP OPT 1 00011001		
0 - 3	Högtalarkonfiguration, ställs i användarläge			
		TEXT OPT 2 00000001		
0	TEXT med yttre RAM		Ja	Nej
		SYS OPT1 3 11010001		
4	NTSC 3,58 MHz		Ja	Nej
		IF OPT 5 00000001		
0	B/G-norm		Ja	Nej
1	I-norm		Ja	Nej
2	D/K-norm		Ja	Nej
3	L/L'-norm		Ja	Nej
5	Baseband		Ja	Nej

Optionbits som skall ställas in manuellt.

Bit	Förklaring	Inställning	'1'	'0'
		DSP OPT 1 00110000		
4	Basdelning (normalt Ja)		Ja	Nej
6	Förkorrigering för E- och B2-kabinett		Ja	Nej
		TEXT OPT 2 00000100		
2	Flof-text		Ja	Nej
		SYS OPT1 3 11000001		
0	Kamera-anslutning		Ja	Nej
6	NICAM		Ja	Nej
7	Loudness		Ja	Nej
		IF OPT 5 10000000		
7	Endast UHF-tuner		Ja	Nej
		UIF FLAGS 01100010		
4	OEM-option		Ja	Nej

SERVICEINSTÄLLNINGAR VIA IIC-BUS

Fjärrkontrollknappar i serviceläge

När mottagaren är i service-läge kan man välja normalt TV-läge med TV-knappen och återgå till service-läge med i-knappen. Siffer- och markör-knappar används till inställningar. Med den gula färgknappen kan man tillfälligt gömma service-menyn. Inställningarna sparas med OK-knappen.

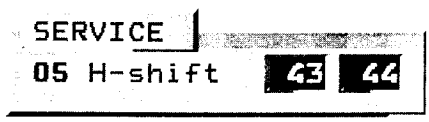
Obs! Drivspänningen U1 måste ställas in till först, före man gör några övriga serviceinställningar.

Service-inställningar

1. Ge en tvåsiffrig kod, som hänvisar till justeringen i fråga, (t.ex. 05 = horisontalfas, se följande tabeller) med sifferknapparna.

Obs! Justeringen kan också väljas med markörknapparna (upp-/nedåt).

2. Justera med markörknapparna (vänster/höger).



3. Spara inställningen med OK-knappen.

Obs!
- För att undvika ofullständig inställning bör justeringen sparas i minnet omedelbart efter ändring.

VERTIKALA BILDINSTÄLLNINGAR

Justering	Kod	OSD-namn	Init. värde	Obs!
Vertikal centrering	01	V-shift	25	Justera färgkanten i mitten av bildskärmen.
Vertikal amplitud	00	V-ampl.	21	Justera den övre delen av bilden rätt.
Vertikal start	02	V-start	33	Justera den nedre delen av bilden rätt.
Vertikal S-korrigering	03	S-corr.	45	

HORISONTALA BILDINSTÄLLNINGAR

Justering	Kod	OSD-namn	Init. värde	Obs!
Bildbredd	04	Width	48	
Horisontal fas	05	H-shift	43	
Horisontal fas RGB				Gör även justeringen med RGB-signal.
Öst-Väst-parabol	06	Parabola	26	
Öst-Väst hörnkorrigering	07	Corner	26	
Öst-Väst trapetskorrigering	08	Trapezium	30	

ÖVRIGA INSTÄLLNINGAR

Justering	Kod	OSD-namn	Init. värde	Obs!
Röd referens	20	R ref.	32	*Obs! Denna procedur är nödvändig när t.ex. bildrör eller*
Grön referens	21	G ref.	32	*CRT-modul är utbytt. Anslut en testbild och ställ in R-, G-*
Blå referens	22	B ref.	32	*och B-referens. Ställ därefter in R-, G- och B-förstärkning.*
Röd förstärkning	17	R gain	32	
Grön förstärkning	18	G gain	32	
Blå förstärkning	19	B gain	32	
Vitbegränsning	23	PWL	63	Normalt krävs ingen justering.
Tuner AGC	25	TV AGC	160	Anslut en 1 mV (60 dBµV) testsignal. Justera bilden brusfri.

O NÄTDELEN

Drivspänning U1 och skyddskretsen

1. Ställ ljus och kontrast till normal nivå. Anslut en universal voltmätare till katoden på Do11.
2. Justera, med Po1, DC-spänningen (U1) till +140 V eller +136 V (±1 V) (beroende på typen av bildrören, titta på kopplingsschema).
3. Kontrollera överströmsskyddet funktion efter serviceingrepp på nätdelens primärsida. Ställ mottagaren i beredskapsläge. Kortslut dioden Do13:ns katod till jord och håll kortslutningen på plats. Fungerar överströmskyddet, stängs nätdelen omedelbart av. Ta bort kortslutningen och slå på apparaten med huvudströmbrytaren.

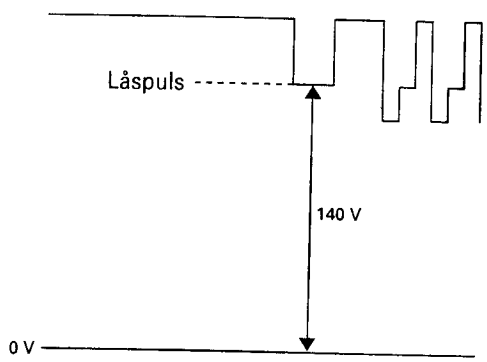
K HORISONTALAVLÄNKNINGS BLOCKET

Fokus

Ställ ljus och kontrast till normal nivå. Använd en testbild med rutmönster och justera bilden för maximum skärpa.

Skärmgallerspänning Ug2

1. Ställ kontrast i minimum, ljus och färgmättnad till normal nivå.
2. Efter vertikalsläckning finns en svartnivå mätpuls. Mät med ett oscilloskop på ICh1 stifterna 9, 12 och 15 kontrollera vilket steg som har den högsta svartnivån (högsta spänningen på svartnivå mätpulsen).
3. Justera med Ug2 spänningen till +140 V.



Obs! Justera spänningen med låsningspulsen (Clamp puls).

LL BILD OCH LJUD MF-MODULEN

Videodemodulatorn

1. Anslut en testsignal (1 mV = 60 dBµV).
2. Anslut en universal voltmätare till modulkontakten X1 stift 6.
3. Justera, med LL6, DC-spänningen till punkten där den växlar från 0 till 3,5 V.

Ljud demodulatorn

1. Anslut en CCIR B/G-norms (FM-modulerat ljud) testsignal.
2. Anslut en universalvoltmätare till ICl1 stift 13.
3. Justera, med LL1, DC-spänningen till +3,7 V.

NVRAM (ICf2)

Installering av NVRAM

Ifall NVRAM-minnet är utbytt, måste det initialiseras och konfigureras på nytt.

1. Ställ mottagaren i serviceläge genom att slå på mottagaren med huvudströmbrytaren och tryck in knappsekvens MENU, TV och "i" inom 5 sekunder.
   OBS! Mottagaren är i service-läge fast det ser ut som om den skulle vara i beredskapsläge!
2. Initialisera NVRAM-minnet genom att trycka på den RÖDA färgknappen. Den GRÖNA lysdioden blinkar till. Vänta ca. 15 sekunder. När initialiseringen är utförd, börjar den GRÖNA lysdioden lysa.
3. Stäng av mottagaren med huvudströmbrytaren.
4. Ställ mottagaren i TV-läge genom att slå på den med huvudströmbrytaren och tryck därefter på TV-knappen. Ställ in ett eller flera TV-program.
5. Stäng av mottagaren med huvudströmbrytaren.
6. Ställ mottagaren i serviceläge. Om mottagaren förblir i beredskapsläge, tryck två gånger på TV-knappen och tryck därefter på "i"-knappen.
7. Konfigurera mottagaren genom att trycka på den RÖDA färgknappen. Konfigurerings-menyn visas på bildskärmen.
8. Tryck på OK-knappen.
9. Gör alla serviceinställningar (se avsnitt "SERVICE-INSTÄLLNINGAR VIA IIC-BUS").
10. Stäng av mottagaren med huvudströmbrytaren.

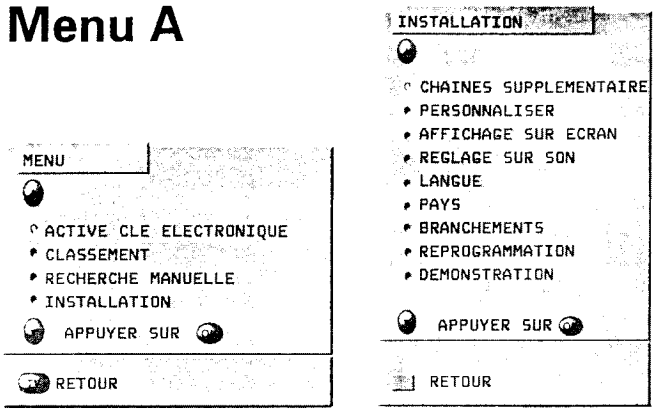
Återinitialisering av NVRAM

När inte mottagaren kopplas på till normal bild, kan NVRAM-minnet kräva återinitialisering.

1. Ställ mottagaren i serviceläge genom att slå på mottagaren med huvudströmbrytaren och tryck in knappsekvens MENU, TV och "i" inom 5 sekunder.
   OBS! Mottagaren är i service-läge fast det ser ut som om den skulle vara i beredskapsläge!
2. Initialisera NVRAM-minnet genom att trycka på den RÖDA färgknappen. Den GRÖNA lysdioden börjar lysa. Vänta i ca. 2 sekunder. Tryck därefter på den BLÅ färgknappen. Vänta igen ca. 2 sekunder och tryck därefter på sifferknapp 2, 5 och 9. Vänta ca. 2 sekunder.
3. Tryck på OK-knappen för att initialisera NVRAM. Initialiseringen tar ca. 15 sekunder.
4. Stäng av mottagaren med huvudströmbrytaren.
5. Ställ mottagaren i TV-läge genom att slå på den med huvudströmbrytaren och tryck därefter på TV-knappen. Ställ in ett eller flera TV-program.
6. Stäng av mottagaren med huvudströmbrytaren.
7. Ställ mottagaren i serviceläge. Om mottagaren förblir i beredskapsläge, tryck två gånger på TV-knappen och tryck därefter på "i"-knappen.
8. Konfigurera mottagaren genom att trycka på den RÖDA färgknappen. Konfigurerings-menyn visas på bildskärmen.
9. Tryck på OK-knappen.
10. Gör alla serviceinställningar (se avsnitt "SERVICE-INSTÄLLNINGAR VIA IIC-BUS").
11. Stäng av mottagaren med huvudströmbrytaren.

MODE D'EMPLOI

Menu A



Sélection de la langue

1. Appuyez sur la touche MENU.
2. Sélectionnez INSTALLATION à l'aide de la touche curseur (vers le haut ou vers le bas) et appuyez sur la touche OK.
3. Sélectionnez LANGUE et appuyez sur la touche OK.
4. Sélectionnez la langue souhaité et appuyez sur la touche OK.
5. Appuyez sur la touche TV.

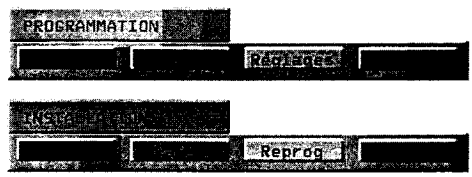
Recherche manuelle

1. Sélectionnez le numéro que vous souhaitez régler.
2. Appuyez sur la touche MENU.
3. Sélectionnez RECHERCHE MANUELLE et appuyez sur la touche OK.
4. Commencez la recherche de chaîne en appuyant sur la touche rouge.
5. Memorisez en appuyant sur la touche OK.
6. Revenez en mode réception TV normale en appuyant sur la touche TV.

APSi

1. Appuyez sur la touche MENU.
2. Sélectionnez INSTALLATION et appuyez sur la touche OK.
3. Sélectionnez REPROGRAMMATION et appuyez sur la touche OK.
4. Commencez la recherche de chaînes en appuyant sur la touche OK.
5. Revenez en mode réception TV normale en appuyant sur la touche TV.

Menu B



Sélection de la langue

1. Appuyez sur la touche PRG.
2. Sélectionnez Install. en appuyant sur la touche bleue.
3. Sélectionnez Langue en appuyant sur la touche rouge.
4. Sélectionnez la langue souhaité à l'aide de la touche curseur (vers le haut ou vers le bas) et appuyez sur la touche OK.
5. Appuyez sur la touche TV.

Recherche manuelle

1. Appuyez sur la touche PRG.
2. Appuyez sur la touche rouge (Syntonis.).
3. Appuyez sur la touche rouge (Recherche).
4. Sélectionnez le numéro de programme sur lequel cette chaine doit être mémorisée.
5. Appuyez sur la touche bleue (Mémorise).
6. Revenez en mode réception TV normale en appuyant sur la touche TV.

APSi

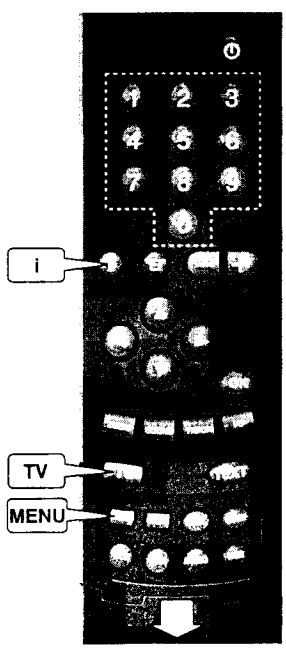
1. Appuyez sur la touche PRG.
2. Appuyez sur la touche bleue (Install.).
3. Appuyez sur la touche jaune (Reprog).
4. Appuyez sur la touche rouge (APSi).
5. Appuyez sur la touche verte (Reprog).
6. Appuyez sur la touche bleue (OK) pour quitter.

REGLAGES DE SERVICE

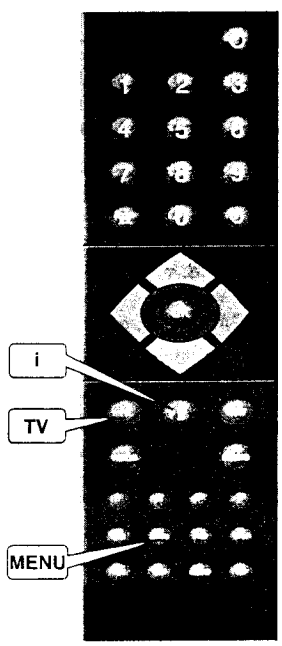
SELECTION DU MODE SERVICE:

Mettre le récepteur en marche á l'aide de l'interrupteur principal et dans les 5 secondes appuyez successivement sur les touches MENU, TV, et "i" de la télécommande.

Menu A



Menu B

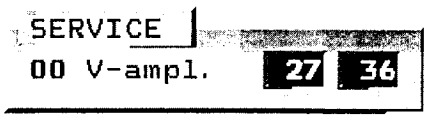


REGLAGES DE SERVICE

SELECTION DU MODE SERVICE

1. Le récepteur est mis en mode service lors de sa mise en marche à l'aide de l'interrupteur principal et en appuyant successivement dans les cinq secondes sur les touches MENU, TV, et "i" de la télécommande.

Remarque ! Si le récepteur reste en mode veille après avoir sélectionné le mode service, allumez-le en appuyant deux fois sur la touche TV et sélectionnez le mode service en appuyant sur la touche "i".



En mode service, un menu de réglages (comprenant le numéro et le nom du réglage, les valeurs d'initialisation (gauche) et de réglages (droite)) s'affiche à l'écran.

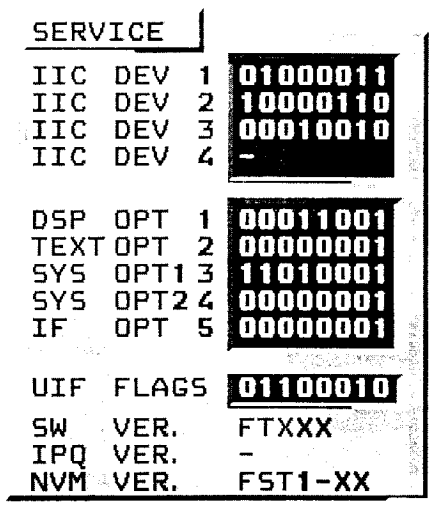
2. Sortez du mode service en éteignant le récepteur à l'aide de l'interrupteur principal.

CONFIGURATION ET DIAGNOSTIC DES DEFAUTS

L'appareil doit être configuré après ajoût ou suppression de certaines options. En appuyant sur la touche rouge en mode service, le processeur vérifie toutes les adresses possibles des circuits conduisant au bus et affiche les réglages à l'écran. Cette propriété peut également être utilisée lors de la recherche d'un défaut ; si un bit d'option n'est pas positionné à '1' alors qu'il le devrait, cela signifie soit que le circuit (ou le module) est endommagé ou soit qu'il est absent.
Pour faire le test, vous pouvez changé la position du bit lorsque vous êtes en mode configuration.

Changement des octets d'option

1. En mode service, sélectionnez le mode configuration en appuyant sur la touche rouge.



Description
SW VER. = version du programme µP
IPQ VER. = -
NVM VER. = version de la NVRAM

2. Sélectionnez l'octet 1 - 4 du système IIC ou l'octet d'option 1 - 5 avec les touches curseurs (vers le haut ou vers le bas). Sélectionnez l'octet apparaissant en lumière brillante.
3. Placez les bits à l'aide des touches numérotées (0 ... 7).
4. Mémorisez les réglages en appuyant sur la touche OK.
5. Repassez en mode service en appuyant à nouveau sur la touche rouge.

DESCRIPTIONS DES OCTETS D'OPTION

Bits d'option positionnés automatiquement:

Bit	Description	Present	'1'	'0'
		7 6 5 4 3 2 1 0		
	IIC DEV 1	01000011		
0	Tuner TV		oui	non
1	Décodeur TDA9162		oui	non
5	Processeur RVB TDA4780		oui	non
6	Matrice vidéo TDA6417		oui	non
7	Contrôleur PIP SDA9188		oui	non
	IIC DEV 2	10000110		
0	Tuner PIP		oui	non
1	Processeur RVB TDA4680		oui	non
2	Mégatexte SDA5273		oui	non
7	MSP3400 / 3410		oui	non
	IIC DEV 3	00010010		
0	DSP (surround)		oui	non
1	Boomer		oui	non
4	Filtre en peigne (basse ligne SVHS)		oui	non
	DSP OPT 1	00011001		
0 - 3	Configuration des haut-parleurs (passez en mode utilisateur)			
	TEXT OPT 2	00000001		
0	TXT grâce au RAM externe		oui	non
	SYS OPT1 3	11010001		
4	NTSC 3.58 MHz		oui	non
	IF OPT 5	00000001		
0	Système B/G		oui	non
1	Système I		oui	non
2	Système D/K		oui	non
3	Système L/L'		oui	non
5	Bande de base		oui	non

Bits d'option à positionner manuellement:

Bit	Description	Present	'1'	'0'
	DSP OPT 1	00110000		
4	Fractionnement des basses (normally yes)		oui	non
6	Pré-égalisation des haut-parleurs pour les ébénisteries E et B2		oui	non
	TEXT OPT 2	00000100		
2	Flof text possible		oui	non
	SYS OPT1 3	11000001		
0	Prise pour caméra installée		oui	non
6	NICAM possible		oui	non
7	Loudness		oui	non
	IF OPT 5	10000000		
7	Uniquement tuner UHF		oui	non
	UIF FLAGS	01100010		
4	Option OEM		oui	non

RÉGLAGES DE SERVICE AU MOYEN DU BUS I²C

Les touches de la télécommande en mode service

Lorsque le récepteur est en mode service, vous pouvez sélectionner le mode TV normale en appuyant sur la touche TV et repasser en mode service en appuyant sur la touche i.
Les touches curseurs et numérotées sont utilisées pour réaliser les réglages de service. La touche jaune dissimule temporairement le menu service. La touche OK permet de mémoriser les réglages.

Attention: Contrôler le réglage d'U1 avant l'équilibrage.

Réalisation des réglages de service

1. Donnez un code à deux chiffres permettant de définir le réglage à l'aide des touches numérotées. (ex. 05 = phase horizontale, consultez les tableaux suivants)

Remarque! Les réglages peuvent être également sélectionnés grâce aux touches curseurs (vers le haut / vers le bas).

2. Effectuez le réglage avec les touches curseurs (gauche/droite).

3. Mémorisez la nouvelle valeur en appuyant sur la touche OK.

Remarque !
- Pour éviter des réglages incomplets, mémorisez immédiatement chaque réglage après l'avoir réalisé.

RÉGLAGES DE L'IMAGE VERTICALE

Réglage	Code	Nom OSD	Valeur Init.	Remarque!
Décentrage vertical	01	V-shift	25	Réglez le front de couleur au centre de l'écran
Amplitude verticale	00	V-ampl.	21	Réglez la partie haute de l'image selon une proportion correcte
Balayage vertical	02	V-start	33	Réglez la partie basse de l'image selon une proportion correcte
Correction S verticale	03	S-corr.	45	

REGLAGES HORIZONTAUX D'IMAGE

Réglage	Code	Nom OSD	Valeur Init.	Remarque!
Largeur E-O	04	Width	48	
Phase horizontale	05	H-shift	43	
Phase horizontale RVB				De plus, faîtes les mêmes réglages en utilisant le signal RVB.
Parabole E-O	06	Parabola	26	
Coin E-O	07	Corner	26	
Déformation trapézoïdale E-O	08	Trapezium	30	

AUTRES RÉGLAGES

Réglages	Code	Nom OSD	Valeur init.	Remarque!
Référence rouge	20	R ref.	32	*Remarque! La procédure est nécessaire lorsque, par exemple, le tube image ou le module CRT a été remplacé. Appliquez une mire et réglez les références R, V et B. Réglez ensuite les gains R, G et B*
Référence verte	21	G ref.	32	
Référence bleue	22	B ref.	32	
Amplification rouge	17	R gain	32	
Amplification verte	18	G gain	32	
Amplification bleue	19	B gain	32	
Seuil des crêtes de blanc	23	PWL	63	Normalement pas besoin de régler
Tuner CAG	25	TV AGC	160	Appliquez un signal test de 1 mV (60 dBµV) Réglez l'image exactement sans bruit.

O BLOC D'ALIMENTATION DE PUISSANCE

Tension d'alimentation et circuit de protection

1. Placez la lumiére et le contraste sur le niveau normal. Branchez un voltmètre à la cathode de Do11.
2. Réglez la tension DC (U1) pour +140 V ou +136 V (± 1 V) sur Po1 (dépendant sur le type de tube image, voir le schéma).
3. Vérifiez le courant de protection. Mettez le récepteur en mode veille. Court-circuitez la cathode de Do13 avec la masse. Lorsque le courant de protection est actif, l'alimentation s'arrêter. Enlevez le court-circuit et éteignez votre récepteur.

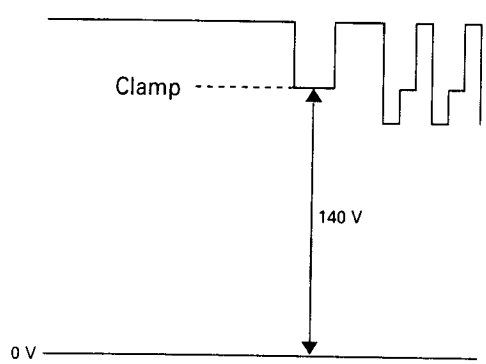
K BLOC DE DEVIATION HORIZONTALE

Focalisation

Placez la lumiére et le contraste sur le niveau normal. Utilisez la mire et réglez l'image pour obtenir une mire excellente.

Tension de G2

1. Placez le contraste sur le minimum, la saturation de lumiére et de couleur sur le niveau normal.
2. Utilisez un oscilloscope et contrôlez le niveau du palier arrière du niveau de noir (avant l'information vidéo) aux bornes 9, 12 et 15 de ICh1.
3. Réglez, à l'aide du potentiométre de G2, le niveau du palier arrière le plus haut à +140 V sur Ug2 (consultez le dessin).



Remarque! Réglez la tension avec le clamp.

LL MODULE IF DU SON ET DE L'IMAGE

Démodulateur vidéo

1. Appliquez un signal test (1 mV = 60 dBµV).
2. Branchez un voltmètre à la borne 6 de la prise du module X1.
3. Réglez la tension DC avec LL6 sur le point où il change de 0 à 3.5 V.

Démodulateur du son

1. Appliquez un signal test de la norme CCIR B/G (son modulé FM).
2. Branchez un voltmètre à la borne 13 de ICl1.
3. Réglez la tension DC avec le LL1 pour obtenir +3.7 V.

NVRAM (ICf2)

Installation de la NVRAM

En cas de remplacement de la NVRAM, celle-ci doit être initialisée et configurée.

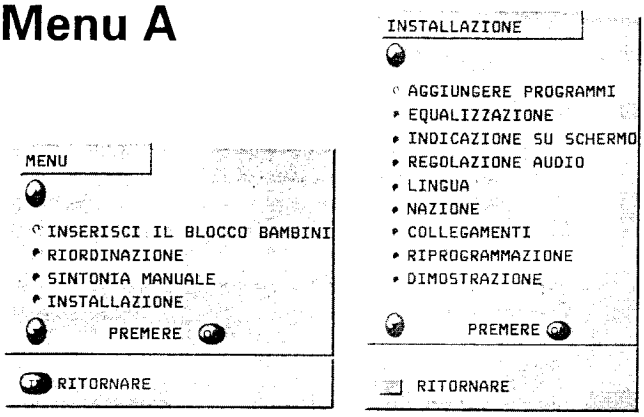
1. Définissez le récepteur en mode service: Après avoir mis en marche votre récepteur à l'aide de l'interrupteur principal, vous devez appuyer successivement, dans les cinq secondes, sur les touches MENU, TV et "i" de la télécommande.
   Remarque! Le récepteur est en mode service même si rien ne s'affiche à l'écran!
2. Initialisez la NVRAM en appuyant sur la bouton rouge. La led verte s'allume et s'éteint. Attendez approximativement 15 secondes jusqu'à ce que la led s'allume définitivement. La première partie de l'initialisation est terminée.
3. Eteignez votre récepteur en appuyant sur l'interrupteur principal de votre récepteur.
4. Redémarez votre récepteur en mode TV normal en appuyant sur l'interrupeur principal et ensuite en appuyant sur le bouton TV. Syntonisez sur une chaîne et sauvegardez la.
5. Eteignez votre récepteur.
6. Redémarrez votre récepteur en mode service. S'il reste en mode veille, appuyez deux fois sur le bouton TV et ensuite sur le bouton "i".
7. Configurez le en appuyant sur le bouton rouge. Un menu de configuration apparaitra.
8. Appuyez sur le bouton OK.
9. Effectuez ensuite tous les réglages de service (voir le chapitre "REGLAGES DE SERVICE AU MOYEN DU BUS IIC").
10. L'installation est terminée. Vous pouvez, maintenant, éteindre votre récepteur.

Reinitialisation de la NVRAM

Si le récepteur ne démarre pas par un affichage normal, la NVRAM doit être réinitialisée.

1. Définissez le récepteur en mode service: Après avoir mis en marche votre récepteur à l'aide de l'interrupteur principal, vous devez appuyer successivement, dans les cinq secondes, sur les touches MENU. TV et "i" de la télécommande.
   Remarque! Le récepteur est en mode service même si rien ne s'affiche à l'écran!
2. Initialisez la NVRAM en appuyant sur le bouton rouge. La led verte s'allume. Attendez environ deux secondes. Appuyez sur le bouton bleu. Attendez environ deux secondes. Appuyez sucessivement sur les boutons 2, 5 et 4. Attendez, de nouveau, environ deux secondes.
3. Appuyez sur le bouton OK pour initialiser la NVRAM. L'initialisation dure approximativement quinze secondes.
4. Eteignez votre récepteur en appuyant sur l'interrupteur principal de votre récepteur.
5. Redémarez votre récepteur en mode TV normal en appuyant sur l'interrupeur principal et ensuite en appuyant sur le bouton TV. Syntonisez sur une chaîne et sauvegardez la.
6. Eteignez votre récepteur.
7. Redémarrez votre récepteur en mode service. S'il reste en mode veille, appuyez deux fois sur le bouton TV et ensuite sur le bouton "i".
8. Configurez le en appuyant sur le bouton rouge. Un menu de configuration apparaitra.
9. Appuyez sur le bouton OK.
10. Effectuez ensuite tous les réglages de service (voir le chapitre "REGLAGES DE SERVICE AU MOYEN DU BUS IIC").
11. La réinitialisation est terminée. Vous pouvez, maintenant, éteindre votre récepteur.

Menu A



Selezione della lingua

1. Premere il tasto MENU.
2. Selezionare INSTALLAZIONE tramite il tasto cursore (su/giù) e premere il tasto OK.
3. Selezionare LINGUA e premere il tasto OK.
4. Selezionare la lingua desiderato e premere il tasto OK.
5. Premere il tasto TV.

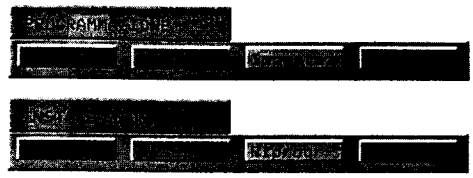
Sintonia manuale

1. Selezionare il numero programma che si desidera sintonizzare.
2. Premere il tasto MENU.
3. Selezionare SINTONIA MANUALE e premere il tasto OK.
4. Avviare la ricerca canali premendo il tasto rosso.
5. Memorizzare le impostazioni premendo il tasto OK.
6. Ritornare alla normale ricezione TV premendo il tasto TV.

APSi

1. Premere il tasto MENU.
2. Selezionare INSTALLAZIONE e premere il tasto OK.
3. Selezionare RIPROGRAMMAZIONE e premere il tasto OK.
4. Avviare la ricerca canali premendo il tasto rosso.
5. Ritornare alla normale ricezione TV premendo il tasto TV.

Menu B



Selezione della lingua

1. Premere il tasto PRG.
2. Premere il tasto azzurro per selezionare Install.
3. Premere il tasto rosso per selezionare Lingua.
4. Selezionare la lingua desiderato tramite il tasto cursore (su/giù) e premere il tasto OK.
5. Premere il tasto TV.

Sintonia manuale

1. Premere il tasto PRG.
2. Premere il tasto rosso (Sintonia).
3. Premere il tasto rosso (Ricerca).
4. Selezionare il numero del programma.
5. Premere il tasto azzurro (Memoria).
6. Ritornare alla normale ricezione TV premendo il tasto TV.

APSi

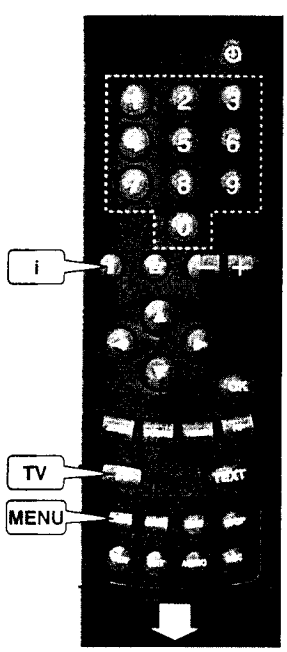
1. Premere il tasto PRG.
2. Premere il tasto azzurro (Install.).
3. Premere il tasto giallo (Riprog.).
4. Premere il tasto rosso (APSi).
5. Premere il tasto verde (Riprog.).
6. Premere il tasto azzurro (OK) per uscire.

REGOLAZIONI DI SERVIZIO

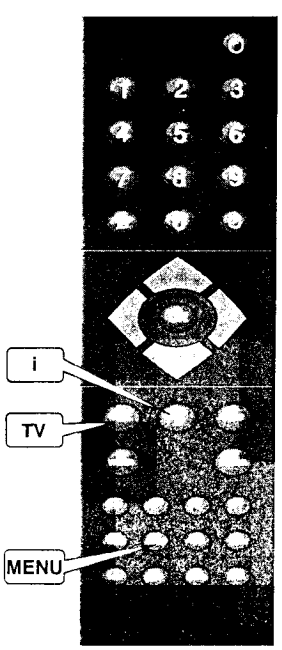
SELEZIONE DEL MODO SERVIZIO

Accendere il ricevitore tramite l'interruttore generale e premendo in sequenza i tasti del telecomando MENU, TV e "i" entro 5 secondi.

Menu A



Menu B

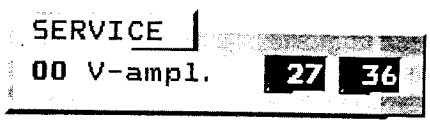


REGOLAZIONI DI SERVIZIO

SELEZIONE DEL MODO SERVIZIO

1. L'impostazione del modo servizio avviene accendendo il ricevitore tramite l'interruttore generale e premendo in sequenza i tasti del telecomando MENU, TV e i entro 5 secondi.

Nota: Se il ricevitore rimane in standby dopo aver selezionato il modo servizio, accendere l'apparecchio TV premendo due volte il tasto TV e selezionare il modo servizio premendo il tasto i.



Quando il ricevitore è in modo servizio, viene visualizzato sullo schermo un menu delle regolazioni (indicante anche il nome ed il numero di ciascuna regolazione, i valori di inizializzazione (sinistra) e regolazione (destra)).

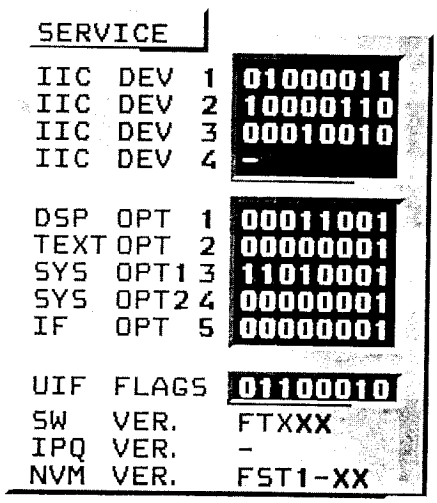
2. Per uscire dal modo servizio, spegnere il ricevitore tramite l'interruttore generale.

CONFIGURAZIONE E DIAGNOSTICA

L'apparecchio TV deve essere configurato qualora si aggiungano o si eliminino delle opzioni. Premendo il tasto rosso in modo servizio, il processore controlla tutti gli indirizzi possibili dei circuiti con bus e visualizza le impostazioni sullo schermo.
Questa funzione può aiutare la ricerca dei difetti; se un Bit Opzione non si trova a "1" quando dovrebbe esserlo, il circuito integrato relativo, o non è presente, oppure è difettoso. Nel menu configurazione è possibile attivare/disattivare i Bit di opzione a scopo di controllo.

Modifica dei bit di opzione

1. In modo servizio, selezionare il modo configurazione premendo il tasto rosso.



Descrizione
SW VER. = Versione software µP.
IPQ VER. = -
NVM VER. = Versione software NVM.

2. Selezionare IIC Device byte 1 - 4 oppure Option byte 1 - 5 tramite i tasti cursore (su/giù). Il byte selezionato compare evidenziato sullo schermo.
3. Impostare i bit tramite i tasti numerici (da 0 a 7).
4. Memorizzare le impostazioni premendo il tasto OK.
5. Tornare al modo servizio premendo di nuovo il tasto rosso.

DESCRIZIONI DEI BYTE DI OPZIONE

Bit Opzioni inseriti automaticamente:

Bit	Descrizione	Impostazione 7 6 5 4 3 2 1 0	'1'	'0'
	IIC DEV 1	**01000011**		
0	Sintonizzatore TV		Sì	No
1	Decodificatore TDA9162		Sì	No
5	Processore RGB TDA4780		Sì	No
6	Interruttore video TDA6417		Sì	No
7	Controllore PIP SDA9188		Sì	No
	IIC DEV 2	**10000110**		
0	Sintonizzatore PIP		Sì	No
1	Processore RGB TDA4680			
2	Megatext SDA5273		Sì	No
7	MSP3400 / 3410		Sì	No
	IIC DEV 3	**00010010**		
0	DSP (surround)		Sì	No
1	Subwoofer		Sì	No
4	Filtro Comb (SVHS a bassa linea)		Sì	No
	DSP OPT 1	**00011001**		
0 - 3	Configurazione altoparlanti (modo utente)			
	TEXT OPT 2	**00000001**		
0	TXT con RAM esterna		Sì	No
	SYS OPT1 3	**11010001**		
4	NTSC 3.58 MHz		Sì	No
	IF OPT 5	**00000001**		
0	Sistema B/G		Sì	No
1	Sistema I		Sì	No
2	Sistema D/K		Sì	No
3	Sistema L/L'		Sì	No
5	Banda base		Sì	No

Bit Opzioni inseriti manualmente:

Bit	Descrizione	Impostazione	'1'	'0'
	DSP OPT 1	**00110000**		
4	Sdoppiamento bassi		Sì	No
6	Pre-equalizzazione altoparlanti surround DSP		Sì	No
	TEXT OPT 2	**00000100**		
2	Abilitato Flof text		Sì	No
	SYS OPT1 3	**11000001**		
0	Connettore camera installato		Sì	No
6	Abilitato NICAM		Sì	No
7	Abilitato Loudness		Sì	No
	IF OPT 5	**10000000**		
7	Solo sintonizzatore UHF		Sì	No
	UIF FLAGS	**01100010**		
4	Opzione OEM		Sì	No

REGOLAZIONI DI SERVIZIO TRAMITE BUS IIC

Uso del telecomando nel modo servizio

Quando si è in modo servizio, è possibile passare al normale modo TV premendo il tasto TV sul telecomando ed eventualmente tornare al modo servizio premendo il tasto i, sempre sul telecomando.
Le regolazioni di servizio vengono effettuate tramite i tasti numerici ed i tasti cursore. Il tasto giallo nasconde temporaneamente il menu di servizio, mentre il tasto OK memorizza le impostazioni.

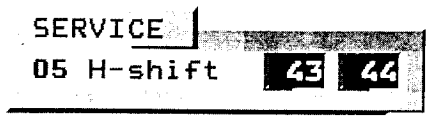
Attenzione! Prima di effetuare l'equilibratura, controllare la regolazione U1.

Come effettuare le regolazioni di servizio

1. Immettere tramite i tasti numerici il codice a due cifre relativo alla regolazione che si desidera effettuare (ad esempio, 05 = fase orizzontale; fare riferimento alle tabelle di seguito riportate).

Nota: Le regolazioni possono essere selezionate anche tramite i tasti cursore (su/giù).

2. Effettuare la regolazione tramite i tasti cursore (destra/sinistra).



3. Memorizzare i nuovi valori premendo il tasto OK.

Nota:
- Per evitare regolazioni incomplete, si consiglia di memorizzare ciascuna regolazione immediatamente dopo averla effettuata.

REGOLAZIONI VERTICALI DELL'IMMAGINE

Regolazione	Codice	Display	Valore iniz.	Nota:
Spostamento centratura verticale	01	V-shift	25	Regolare il fronto del colore al centro dello schermo.
Ampiezza verticale	00	V-ampl.	21	Regolare la metà superiore dell'immagine sul rapporto corretto.
Inizio scansione verticale	02	V-start	33	Regolare la metà inferiore dell'immagine sul rapporto corretto.
Correzione-S verticale	03	S-corr.	45	

REGOLAZIONI ORIZZONTALI DELL'IMMAGINE

Regolazione	Codice	Display	Valore iniz.	Nota:
Larghezza EW	04	Width	48	
Fase orizzontale	05	H-shift	43	
RGB fase orizzontale				Inoltre, effettuare le stesse regolazioni usando il segnale RGB.
Parabola EW	06	Parabola	26	
Angolo EW	07	Corner	26	
Trapezoidale EW	08	Trapezium	30	

ALTRE REGOLAZIONI

Regolazione	Codice	Display	Valore iniz.	Nota:
Riferimento rosso	20	R ref.	32	*Nota: Questa procedura è necessaria quando si*
Riferimento verde	21	G ref.	32	*sostituisce il cinescopio, il modulo CRT etc.*
Riferimento blu	22	B ref.	32	*Collegare un segnale test e regolare i riferimenti di R, G e B*
				Regolare il guadagno di R, G e B.
Guadagno rosso	17	R gain	32	
Guadagno verde	18	G gain	32	
Guadagno blu	19	B gain	32	
Limite picco bianco	23	PWL	63	Regolazione generalmente non necessaria.
Sintonizzatore AGC	25	TV AGC	160	Applicare un segnale di test 1 mV (60 dBµV). Regolare al meglio l'immagine.

O BLOCCO ALIMENTATORE

Circuito di protezione dell'alimentatore

1. Regolare la luminosità ed il contrasto sui valori normali. Collegare un voltmetro universale al catodo di Do11.
2. Regolare con Po1 la tensione cc (U1) a +140 V o +136 V (±1 V) (dipendere da tipo di tubo a raggi catodici, guardare il schema elettrico).
3. Controllare sempre la protezione alle sovracorrenti dopo aver effettuato qualsiasi operazione di servizio sul circuito primario dell'alimetazione. Per controllarla procedere come segue:

- Portare l'apparecchio in stand-by.
- Cortocircuitare il catodo del Do13 a massa e mantenere il corto circuito. Se la protezione alle sovracorrenti lavora correttamente, l'alimentatore viene bloccato.
- Togliere il corto circuito e accendere l'apparecchio dall'interruttore di rete.

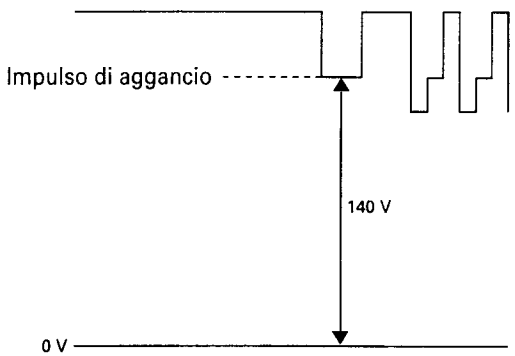
K BLOCCO DEFLESSIONE ORIZZONTALE

Messa a fuoco

Regolare la luminosità ed il contrasto sui valori normali. Utilizzando un quadro di test, regolare l'immagine fino ad ottenere il livello di risoluzione ottimale.

Tensione di griglia schermo

1. Regolare il contrasto sul valore minimo e la luminosità e la saturazione colore sui valori normali.
2. Con un oscilloscopio controllare l'ampiezza degli impulsi di aggancio del livello del nero inserito (Inserted black level) per la durata di 3 righe dopo lo spegnimento verticale su ICh1 piedinos 9, 12 e 15.
3. Con Ug2 regolare a +140 V l'ampiezza dell'impulso di aggancio più alto (vedere figura).



Nota: Regolare la tensione con l'impulso di aggancio.

LL MODULO FI VIDEO E AUDIO

Demodulatore video

1. Applicare un segnale di test (1 mV = 60 dBµV).
2. Collegare un voltmetro universale al connettore del modulo X1 piedino 6.
3. Regolare con LL6 la tensione cc fino sul punto in cui passa da 0 a 3.5 V.

Demodulatore audio

1. Applicare un segnale di test CCIR B/G standard (suono modulato FM).
2. Collegare un voltmetro universale a ICl1 piedino 13.
3. Regolare con LL1 la tensione cc a +3.7 V.

NVRAM (ICf2)

Installazione della NVRAM

Qualora la NVRAM venga sostituita, è necessario inizializzarla e configurarla. Procedere come segue:

1. Portare l'apparecchio in modo di servizio accendendolo con l'interruttore di rete ed, entro 5 secondi, premendo i tasti "MENU" "TV" e "i" in sequenza.
   Nota: Il televisore è in modo servizio anche se sembra essere in stand-by.
2. Inizializzare la NVRAM premendo il tasto rosso. Il led verde lampeggerà una volta. Aspettare ca. 15 secondi. Quando l'inizializzazione sarà completa, il led verde si accenderà.
3. Spegnere l'apparecchio tramite l'interruttore di rete.
4. Riaccendere l'apparecchio premende l'interruttore di rete e poi premere il tasto TV. Sintonizzare uno o più canali TV.
5. Spegnere nuovamente l'apparecchio con l'interruttore di rete.
6. Riaccendere l'appareccio e portalo nuovamente in modo di servizio. Se l'apparecchio rimane in stand-by premere due volte il tasto TV e poi il tast "i".
7. Configurare l'appareccio premendo il tasto rosso. Sullo schermo apparirà il menu configurazione.
8. Premere il tasto OK.
9. Effettuare tutte le regolazioni di servizio (Vedere "REGOLAZIONI DI SERVIZIO TRAMITE IIC BUS").
10. Spegnere l'apparecchio tramite l'interruttore di rete.

Riinizializzazione della NVRAM

Questa operazione può essere necessaria qualora l'apparecchio non si accenda su condizioni d'immagine normali.

1. Portare l'apparecchio in modo di servizio accendendolo con l'interruttore di rete ed, entro 5 secondi, premendo i tasti "MENU" "TV" e "i" in sequenza.
   Nota: Il televisore è in modo servizio anche se sembra essere in stand-by.
2. Inizializzare la NVRAM premendo i tasto rosso. Il led verde si accenderà. Aspettare ca. 2 sec. e poi premere il tasto blu. Aspettare ca. 2 sec. e poi premere i tasti numerati 2, 5 e 4 in successione. Aspettare ca. 2 sec.
3. Premere il tasto OK per inizializzare la NVRAM. L'inizializzazione avverrà in ca. 15 sec.
4. Spegnere l'apparecchio tramite l'interruttore di rete.
5. Riaccendere l'apparecchio premende l'interruttore di rete e poi premere il tasto TV. Sintonizzare uno o più canali TV.
6. Spegnere nuovamente l'apparecchio con l'interruttore di rete.
7. Riaccendere l'appareccio e portalo nuovamente in modo di servizio. Se l'apparecchio rimane in stand-by premere due volte il tasto TV e poi il tasto "i".
8. Configurare l'appareccio premendo il tasto rosso. Sullo schermo apparirà il menu configurazione.
9. Premere il tasto OK.
10. Effettuare tutte le regolazioni di servizio (Vedere "REGOLAZIONI DI SERVIZIO TRAMITE IIC BUS").
11. Spegnere l'apparecchio tramite l'interruttore di rete.

GRID REFERENCES OF THE MAINBOARD

Ca1	A8	Co3	G1	Ct27	E4	Lf3	C/D1	Ro2	L3	**CONNECTORS**	
Ca2	A8	Co4	G1	Ct28	E4	Lk1	L7/8	Ro4	K3	XAAR1	E7/8
Ca3	A7	Co6	J1/2	Ct29	F4	Lk2	H10	Ro5	K/L3	XAAR2	D7
Ca6	A6	Co7	J2			Lk3	I9/10	Ro6	K3	XAAV	A4/5
Ca7	A6	Co8	J1	Dk1	J7	Lk4	H9	Ro7	K/L4	XATA	A5
Ca9	A8	Co9	J1	Dk2	J6/7	Lo1	K5	Ro13	K1	XDCF	E3/4
Ca15	A4	Co12	I/J3	Dk3	K/L7	Lo2	K5	Ro14	K/L1	XEXTS	A10
Ca18	C7	Co13	L3	Dk4	G8	Lo3	G5	Ro15	L1	XFFC	C1
Ca19	A7	Co14	J3	Dk5	G9	Lo4	H3	Ro16	I1	XINTS	A9
Ca21	A8	Co15	G10	Dk6	G9	Lo5	J4/5	Ro17	I1	XKH	I/J7
Ca29	C7	Co15	L3	Dk7	I/J8	Lo6	H/I6	Ro20	H1	XO1	H1
Ca36	B8	Co16	L3	Dk8	I9	Lq1	F9	Ro21	I2	XO2	H1/2
Ca38	E8	Co17	L4	Dk11	I10	Lq2	E/F10	Ro23	K2	XQL1	A/B5
Ca39	D9	Co18	L3	Dk12	I8/9	Lq3	D9	Ro24	L4	XQT	D9
Ca42	E9	Co19	L4	Dk13	H8	Lq4	B10	Ro25	K2/3	XQTA	E/F6
Ca43	E9	Co20	K5	Do1	J1	Lq5	B8	Ro26	K4	XQWS	E8/9
Ca45	C9	Co21	J2	Do2	J/K1	Lq6	B5	Ro27	K3	XQ2	E/F10
Ca46	C9	Co22	L6/7	Do3	J2	Lq7	C6	Ro30	K1	XQ3	C/D10
Ca47	C9	Co23	K2	Do4	J1	Lt1	F5	Ro31	J1	XQ4	F/G10
Ca48	C9	Co27	E1/2	Do5	L5			Ro32	L6	XS1	G8
Ca49	C/D7	Co31	H5	Do6	L2/3	Mk1	J/K10	Ro33	L6	XTH	D4/5
Ca51	D9	Co32	G5	Do7	J3/4	Mk2	G9	Ro34	K6	XTQ	E5
Ca52	D9	Co33	G/H6	Do8	I/J6	Mo2	I/J4	Ro35	H4/5	XT3	C6
Ca53	B9	Co34	H4	Do11	H5			Ro36	H3		
Ca54	B9	Co36	H2/3	Do12	H4	Po1	K6	Ro37	H6/7		
Ca56	C9	Co37	G/H4	Do13	H4			Ro40	I6		
Ca58	C/D7	Co38	H3	Do14	H4	Ra3	C9	Ro41	J6/7	**CHIP**	
Ca62	C7	Co39	G/H3	Do16	H3	Ra18	G1/2	Ro42	H6	**COMPONENTS**	
Ca63	A5	Co40	K/L6	Do18	J/K4	Rd3	D3	Ro43	I5	ca4	A7
Ca64	A/B5	Co41	G3/4	Ds1	H7	Rd4	D3	Ro44	J/K6	ca5	A8
Ca65	B7	Co42	H3	DZa1	B/C8	Rd11	F3/4	Ro45	I6	ca8	A8
Ca66	C9	Co43	H3	DZk1	H7	Rd12	E3	Ro47	J6	ca10	A2
Ca70	C9	Co44	H4	DZk9	G7	Rd75	F9	Ro62	F5	ca12	A8
Ca71	C/D8	Co45	H3	DZo2	L6	Rk0	K/L10	Ro63	F1/2	ca13	A10
Cd3	E3	Co46	G/4	DZq1	D6/7	Rk1	I7	Ro65	G1	ca14	A9
Cd11	E2	Co47	G4	DZr1	B3	Rk2	J7	Ro71	H6	ca16	A10
Cd23	D3	Co48	G5	DZt1	E/f4	Rk3	L8	Ro72	H6/7	ca17	A9
Cd24	E1	Co49	H3			Rk4	I7	Ro80	K4	ca22	C8
Cd25	E/F2	Co50	G6	Fo1	J1	Rk5	L9	Ro81	K4	ca23	C8
Cd26	E1	Co51	G/H3	Fo2	I3/4	Rk6	I6/7	Ro82	K4	ca24	C8
Cd28	D2	Co52	I2/3	Fo3	I4	Rk8	L8	Rq48	F9	ca26	C8
Cd41	F1	Co54	H2/3	Fo4	I3	Rk9	J7	Rq54	D6	ca27	C8
Cd46	D1	Co59	D1			Rk10	H/I8	Rq72	E9	ca28	B8
Cf2	B3	Co61	D1	ICa1	A7	Rk11	I6	Rq73	E9	ca31	D8
Cf4	C3	Co62	E1	ICa2	C/d8	Rk12	I6	Rs2	H7	ca32	D8
Cf5	C2	Co63	G2	ICa3	C7	Rk13	I6	Rs3	H7	ca33	D8
Ck1	I7	Co64	G2	ICd1	D/E3	Rk14	I6	Rs8	H8	ca34	D8
Ck2	I7	Co65	G2	ICd2	E/F1	Rk15	H7	Rs9	G7	ca35	D8
Ck3	J7	Co69	H7	ICd3	E2	Rk16	J7	Rs10	G8	ca37	D/E8
Ck4	I/J6	Co71	H7	ICf1	A1	Rk17	J7	Rs15	H8	ca41	D8
Ck6	K6/7	Co72	L3	ICf2	D1/2	Rk18	L7/8	Rs16	H8	ca44	C8
Ck7	L9/10	Co75	D1	ICf3	B2	Rk19	L8	Rt17	E4	ca57	C8
Ck8	L9/10	Cq1	B9	ICo1	L3	Rk20	H6	Rt18	D4	ca59	C8
Ck9	I/J6	Cq20	E7	ICo2	L5/6	Rk23	F8			ca60	C8
Ck10	L7	Cq24	E/F7	ICo3	H3	Rk25	G9	Ta1	A9	ca61	C8
Ck11	K/L7	Cq26	E6	ICo4	D1	Rk30	F9	Ta2	A9	ca67	C7
Ck12	I7	Cq30	E7	ICo6	G2	Rk31	H9	Tk1	G10	ca68	D8
Ck13	G8	Cq31	E5/6	ICo7	I6	Rk32	H9	Tk2	G10	ca69	D8
Ck14	G8	Cq32	D9	ICo8	K6	Rk33	H9	Tk3	I8	cd2	E3
Ck15	K7	Cq40	E9	ICq1	E6/7	Rk34	H9	Tk4	G6	cd12	E3
Ck16	G10	Cq41	D10	ICr1	A/B4	Rk36	H10	Tk5	I9	cd13	D2/3
Ck17	G9	Cr8	A3	ICr2	A3/4	Rk37	H9	To1	K3/4	cd14	E2
Ck18	H10	Cr9	B3	ICs1	G7	Rk38	H8	To2	J6	cd16	D2/3
Ck22	J8	Cr12	B4	ICt1	E4/5	Rk39	H10	To5	J6	cd17	D2
Ck23	I7	Cs1	G7	ICt2	A1	Rk40	I10	To6	J6	cd18	D2
Ck24	I10	Cs2	G7			Rk41	F4	To8	G6	cd19	D2/3
Ck26	I8	Cs3	G/H8	La1	D7	Rk42	F4			cd20	E3
Ck27	G8	Cs12	G8	La2	E8	Rk45	I9	Za1	D8/9	cd22	E3
Ck28	H8	Cs13	G/H7	Ld1	D4	Rk46	H8	Zd1	D2	cd29	F2
Ck29	J10	Ct5	F4/5	Ld2	F2	Rk47	D4	Zd2	D2	cd31	E2
Ck32	G10	Ct21	F4	Ld3	B5	Rk50	I8	Zf1	B3	cd35	F2
Ck33	J9	Ct22	F4	Ld4	F/G1	Rk51	J7	Zr1	B3	cd36	F2
Co1	I1	Ct23	F4	Lf1	C3	Rk52	H8			cd37	F1
Co2	L1/2	Ct26	E4	Lf2	C3	Ro1	L1				

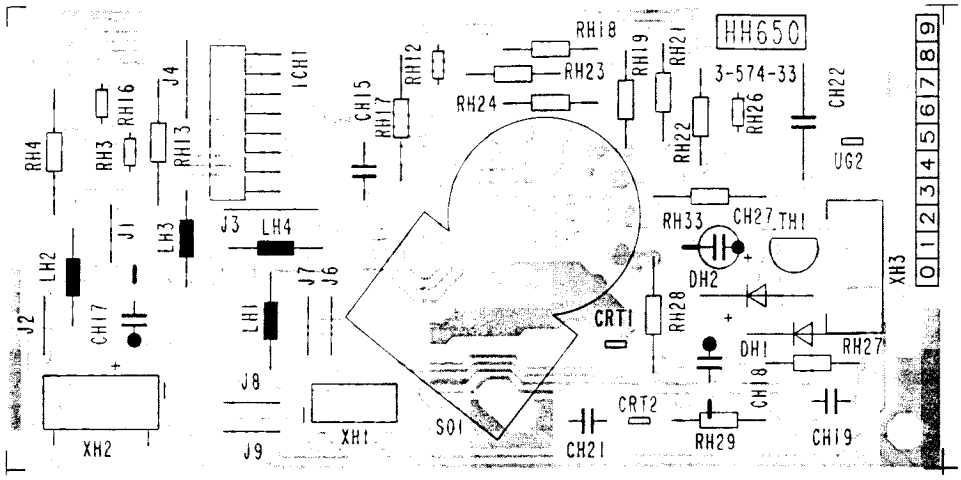
GRID REFERENCES OF THE MAIN BOARD

cd38	F2
cd39	F2
cd40	F1
cd42	E1
cd43	E1
cd44	E1
cd45	E1
cd47	E5
cd48	F2
cd49	F2
cd50	E6
cf1	A3
cf3	B2
cf6	B3
cf7	B2
cf8	C2
cf9	C2
cf10	B2
cf11	B2
co5	K5
co10	K3
co41	L5
cq2	F10
cq3	F9/10
cq4	F9
cq6	F9/10
cq7	E9/10
cq8	D10
cq9	E9/10
cq11	D/E10
cq12	D10
cq13	D9
cq14	C9
cq16	B9
cq17	C9
cq18	B9
cq19	C9
cq21	C9
cq22	C9
cq23	E7
cq25	E7
cq27	E6
cq28	E2
cq29	E2
cq33	B9
cq34	B10
cq35	B9
cq36	E2
cq37	E6
cq38	E6
cq42	B5
cq43	B5
cr1	B4
cr2	B4
cr3	D7
cr4	B4
cr6	B4
cr7	B4
cr10	B3
cr11	B3
cr15	B4
cr16	B4
cs4	G7
cs5	G7
cs10	G7
cs11	G8
ct1	D5
ct2	E5
ct3	E5
ct4	E5
ct24	F4
da1	A4
df1	C2/3
dk10	G5
do9	H6
do10	F5
do17	K4
ds2	F7
dt2	E/F4/5
dt3	F4/5
dza2	A6
dzd1	F3
dzk2	G5
dzo1	H6
j5	F9
j15	A2
j22	D4
j72	B2
j97	E9
j109	A4
j114	C9
j115	D1
j120	F1
j127	E6
j130	E6
j161	B9
j241	E2
j243	B4
j276	A2
j277	A1
j279	A1
j284	A2
j310	C4
j340	E5
ra1	A8
ra2	A8
ra3	A8
ra4	A9
ra6	A8/9
ra7	A8
ra8	A8
ra9	A8
ra10	A6
ra11	A7
ra12	A7
ra13	A7
ra14	A6
ra16	A4
ra17	A6
ra19	A5
ra20	A7
ra21	A5
ra22	D7
ra23	D7
ra24	D7
ra25	A7
ra26	C8/9
ra27	C9
ra28	B9
ra29	B9
ra30	A5
ra32	C7
ra33	C7
ra34	C7
ra35	D8
ra36	C7
ra37	C7
ra38	C7
ra39	C7
ra40	A6
ra41	C7
ra42	D8
ra43	B7
ra44	B7
ra45	A6
ra46	D8
ra47	A4
ra50	D8/9
ra51	D8
ra52	D8
ra53	D8
ra54	C8
ra55	C8
rd1	E2
rd2	D2
rd5	E3
rd6	F3
rd8	E2/3
rd9	E3
rd10	E3
rd35	F1
rd36	F1
rd37	F1
rd38	F1
rd39	E1
rd40	E1
rd41	E1
rd42	F1
rd43	F1
rd44	F1
rd46	E1
rd47	D/E7
rd48	E7
rd73	E6
rd74	E6
rf2	B2
rf3	B2
rf4	B3
rf5	B3
rf6	D1
rf7	C/D2
rf8	D2
rf9	C3
rf10	B3
rf11	D2
rf12	B3
rf15	B2
rf17	B2
rf18	C2
rf19	C2
rf21	C2
rf22	C2
rf23	C2
rf24	C1
rf25	C2
rf26	B1
rf27	B1
rf28	B2
rf29	E/F9
rf30	C2
rf31	E9
rf32	B1
rf33	B2
rf34	B2
rf35	C2
rf36	C2
rf37	B2
rf38	C3
rf39	C3
rf40	B3
rf41	B1
rf42	C2
rk7	I6
rk28	G8
rk29	G10
rk43	F3
rk44	G6
rk53	I6/7
ro3	K3
ro10	K/L4
ro11	K3
ro12	L5
ro22	K3
ro46	I6
ro51	K6
ro52	J6
ro53	J6
ro55	J6
ro56	J6
ro57	J6
ro61	E4
ro64	G2
ro67	F5
ro68	F2
ro73	L3
ro74	L4
ro75	L4
ro76	L5
ro77	L4
ro78	K4
ro79	K4
rq1	B10
rq2	B10
rq3	B10
rq4	B8/9
rq6	B9
rq7	B8
rq8	B8
rq9	F9
rq10	F10
rq11	F9/10
rq12	E9
rq13	E9/10
rq14	E10
rq15	B5
rq16	E10
rq17	D10
rq18	E9/10
rq19	E10
rq21	D10
rq22	D/E10
rq23	D9
rq24	D10
rq26	D10
rq27	D9
rq28	C9
rq29	C9
rq31	C9
rq32	B/C10
rq33	D10
rq36	C10
rq37	C9
rq37	D4
rq38	C10
rq39	C10
rq41	C10
rq42	B/C10
rq43	C10
rq44	G9/10
rq46	F8
rq47	F10
rq49	F10
rq51	F9
rq52	E7
rq53	E7
rq56	E6
rq57	E6
rq58	E3
rq59	F3
rq60	E3
rq62	D9
rq63	D9
rq64	D9
rq65	E8
rq66	E8
rq68	E9
rq69	E9/10
rq74	G9
rq75	F9
rr1	B4
rr2	B3
rr3	C4
rr4	B4
rr6	B4
rr7	B4
rr15	B4
rr16	B4
rs1	G8
rs4	G6/7
rs6	G7
rs7	G8
rs11	G7
rt11	F4/5
rt12	E4
rt13	E4/5
rt14	D5
rt16	E4/5
rt20	F4/5
rt21	E4
rt22	F4
ta3	A6
ta4	A6
ta5	C7
ta6	A7
ta7	A6
td1	E1
td2	E1
tf1	C3
tf2	B/C3
to3	L4
to4	F3/4
to7	F2
to9	G2
to10	L5
tq1	F9
tq2	D10
tq3	D9
tq4	D9
tq5	E9
tq6	E9
tq7	F/G9
tq8	F/G9
tt1	F4

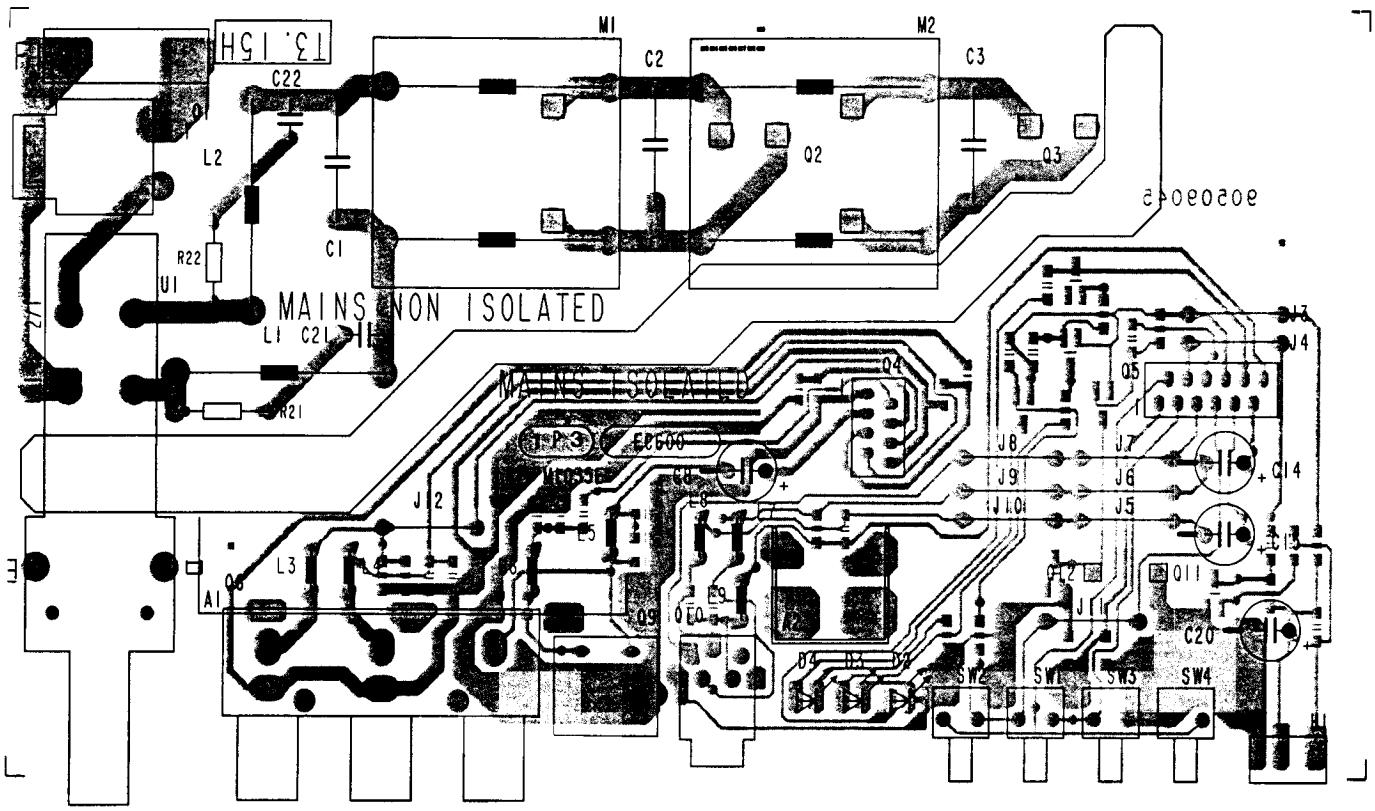
TEST POINTS

1	B8
2	B5/6
3	B5
4	B6
5	B6
6	D7/8
7	F10
8	E10
9	F3
10	E4
11	F3
12	F2
13	C9
14	D2
15	D3
16	D2
19	D2
20	E1/2
21	E1/2
22	D3
23	E3
25	B3
26	B3/4
27	B4
28	D5
29	E1
30	F1
31	F1
33	E/F3
37	D4/5
38	D4
39	E4
43	E4
45	B3
46	D2
47	C3
51	G8
52	G10
53	G9
54	H8
55	I8
56	I7
57	K8
58	J8
59	K/L9
60	J7
61	I/J7
62	K8
65	G8
66	G8
67	H7
68	H8
69	H7/8
70	H7
71	F7
72	G7
73	G6
74	I10
75	H10
76	I/J10
81	K2
83	K/L3
88	L2
89	K4
90	K4
91	K4
92	K5
93	J3/4
5Vr	G2
5Vstby	D1
7V	G5
8V	F5/6
12V	G3
16V	K7
17V	G3
28V	H3
30V	H6
50V	I7
140V	G6
200V	I/J7
REF	K2

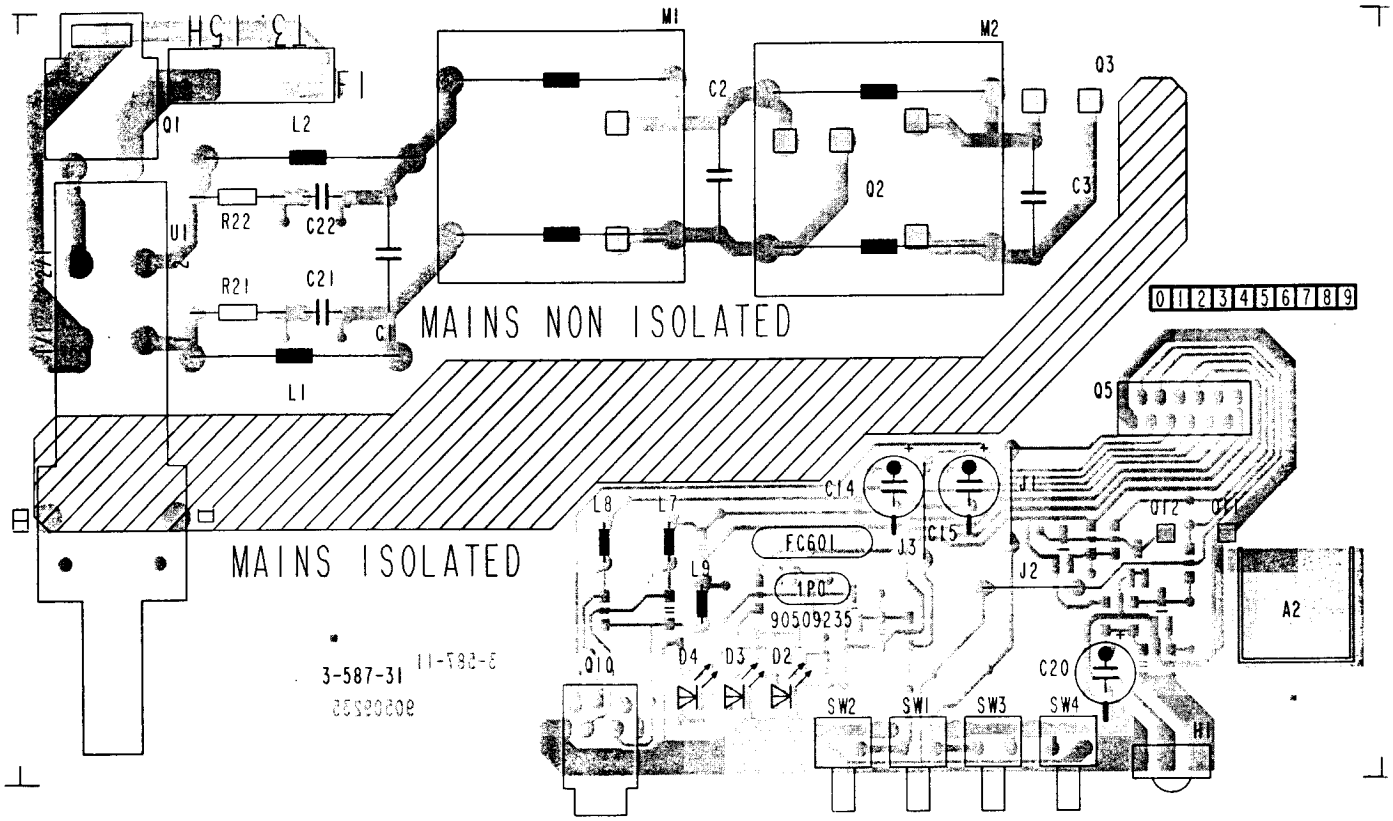
CRT-MODULE HH650



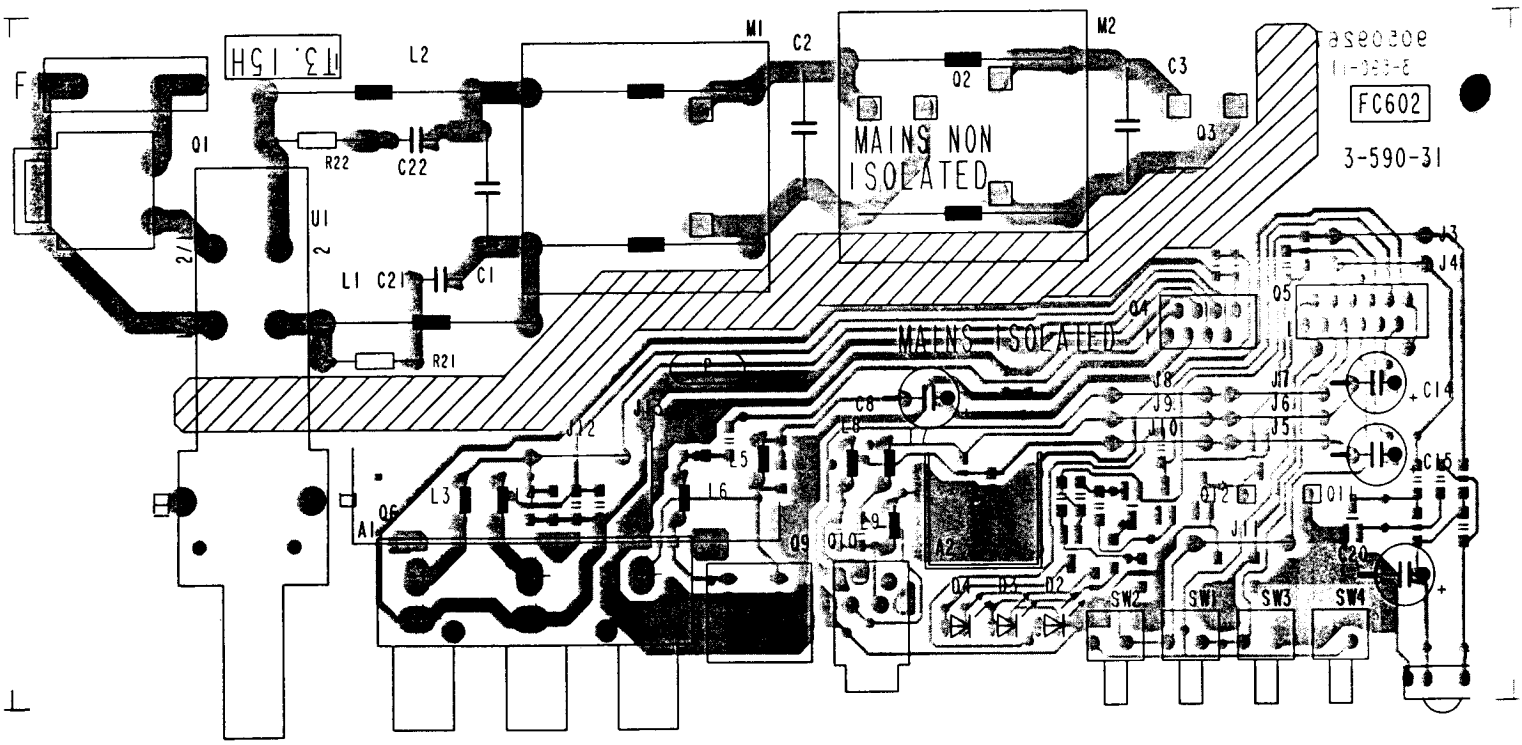
FC-MODULE FC600

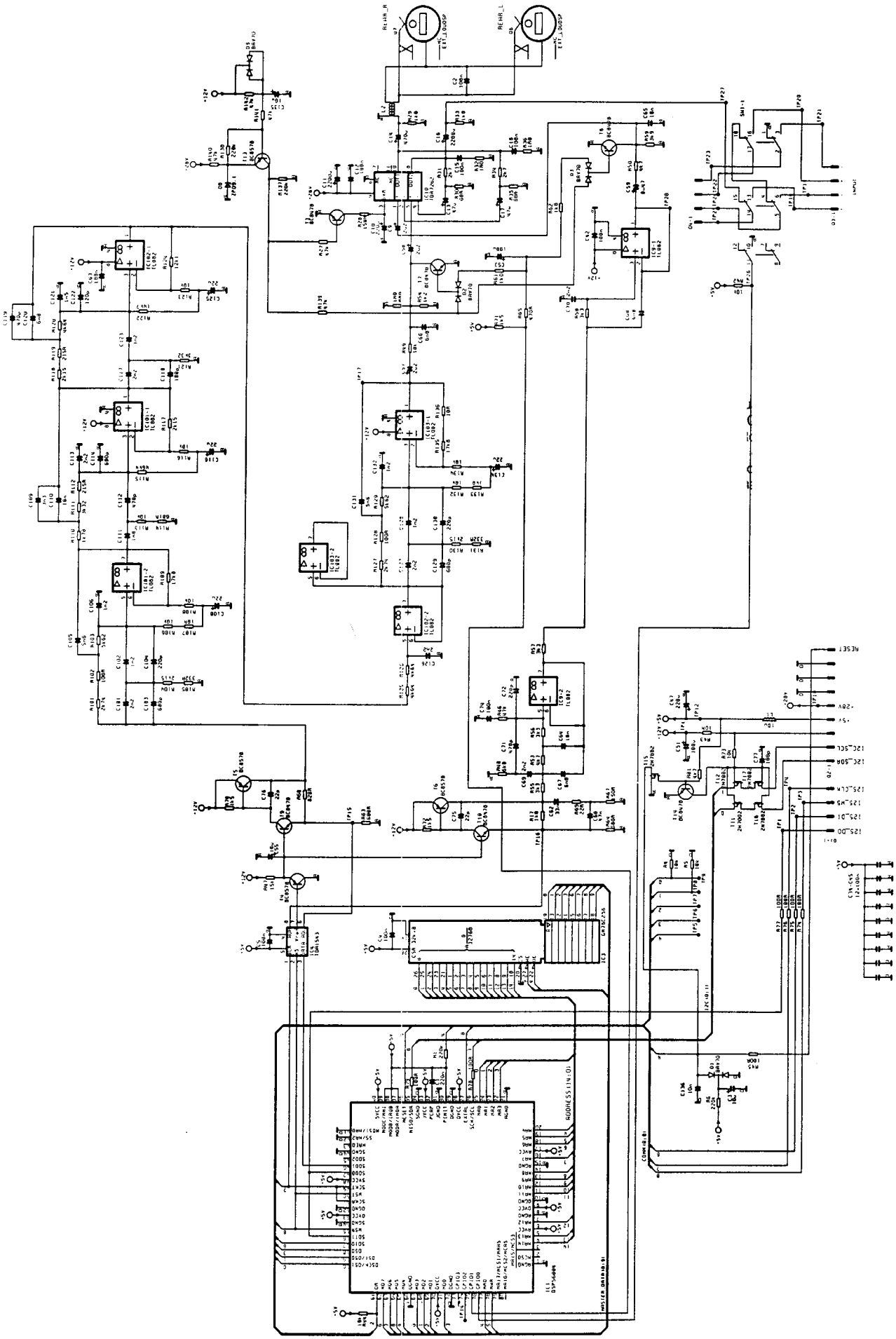


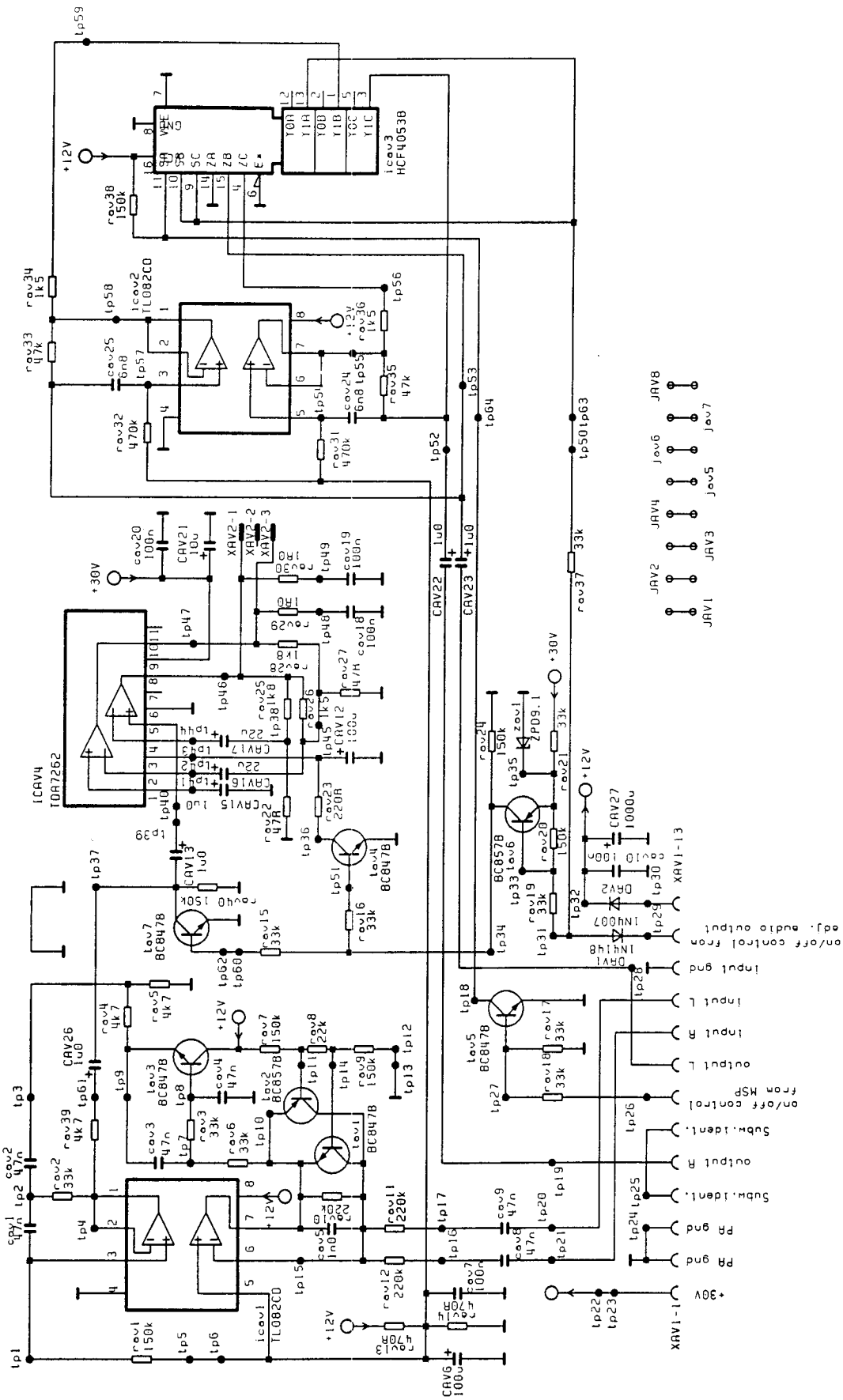
FC-MODULE FC601



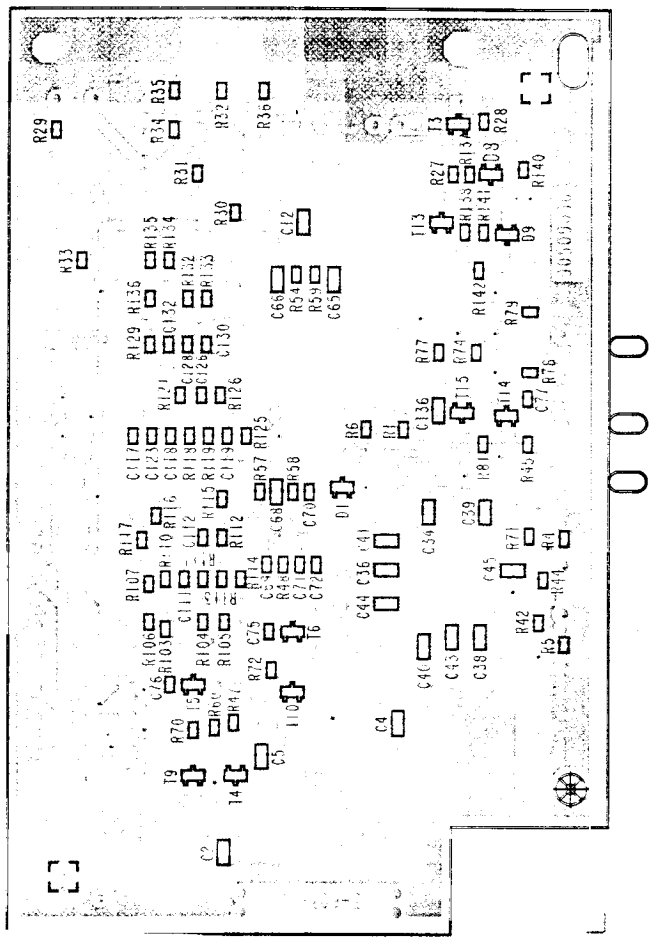
FC-MODULE FC602

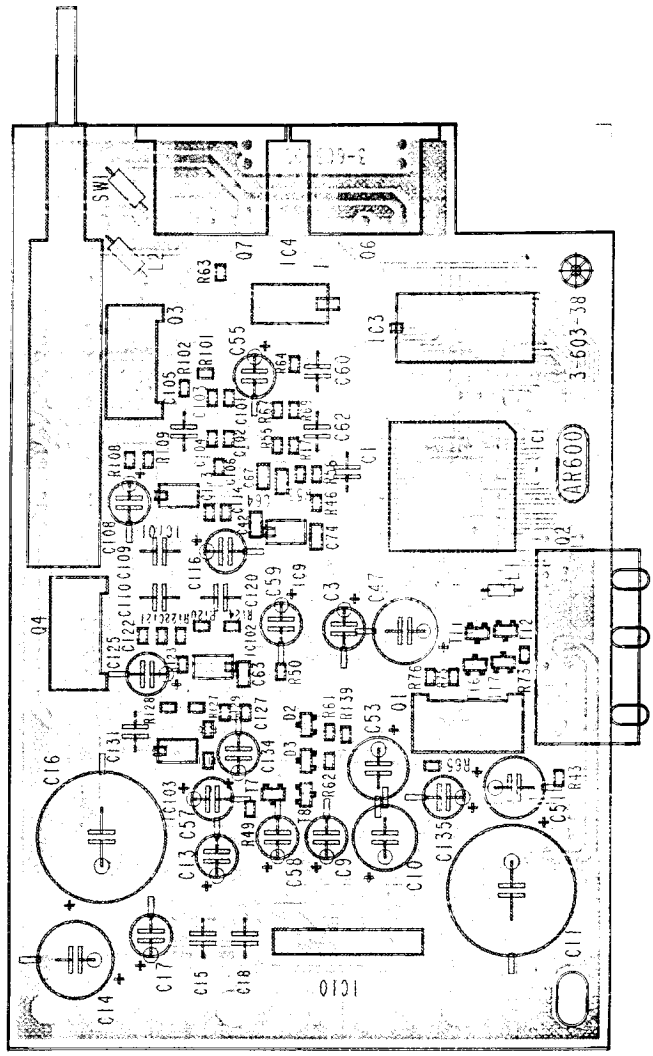




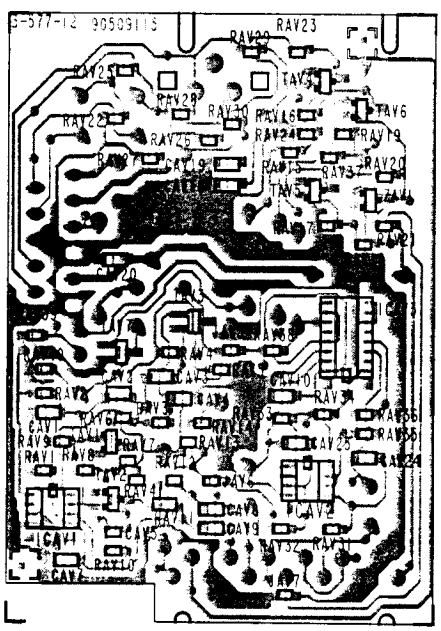


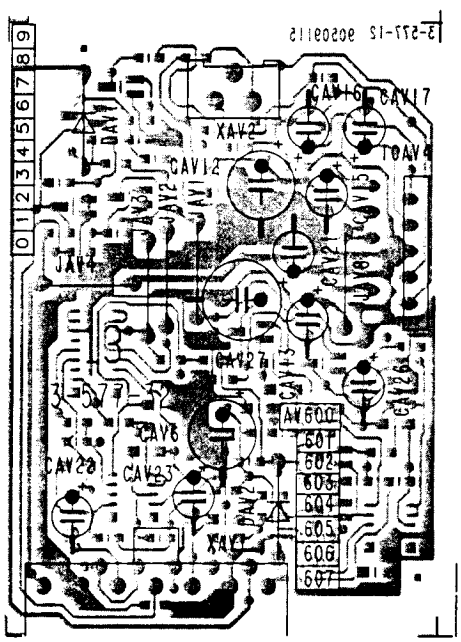
SURROUND SOUND MODULE AR600

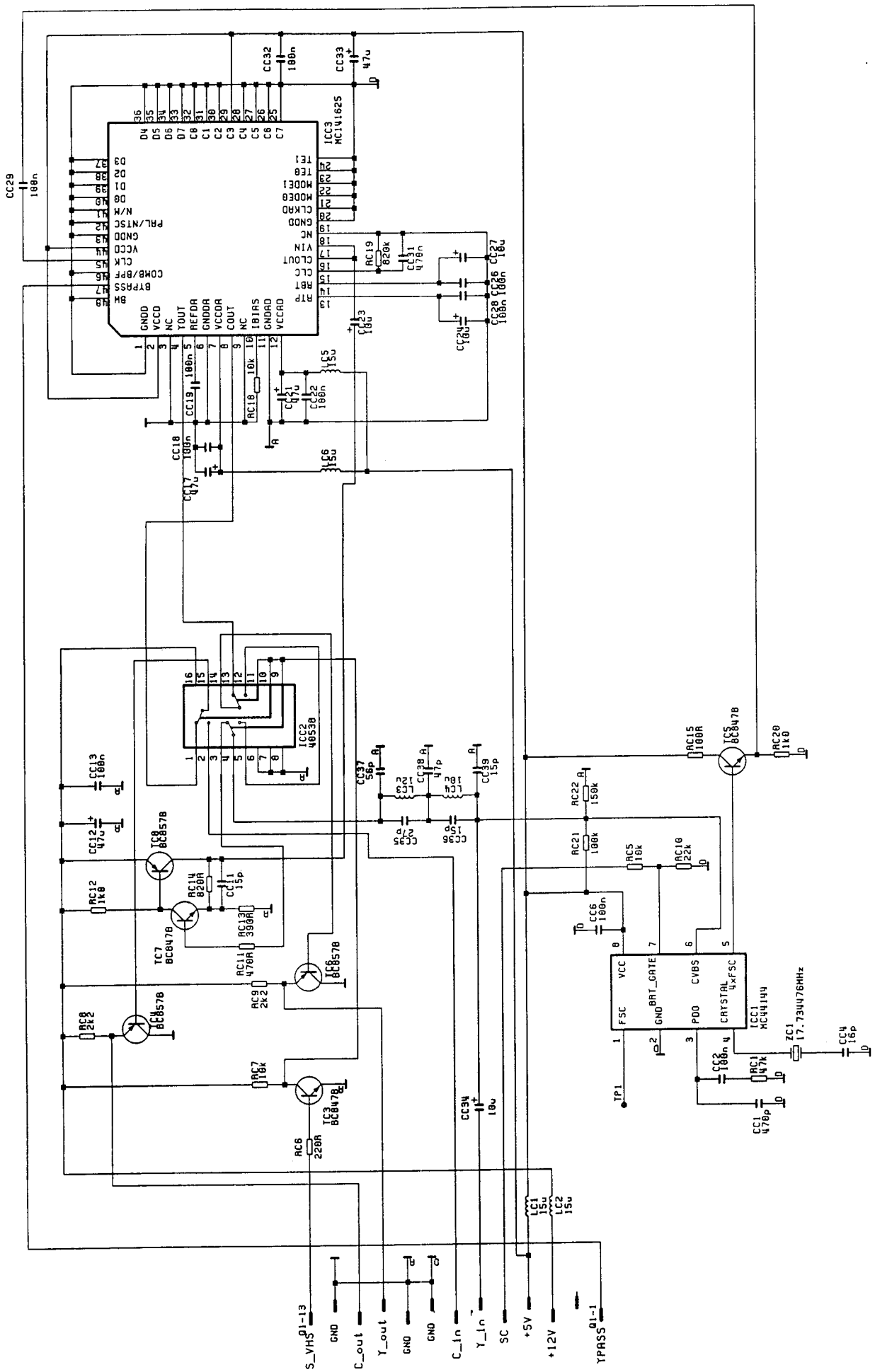


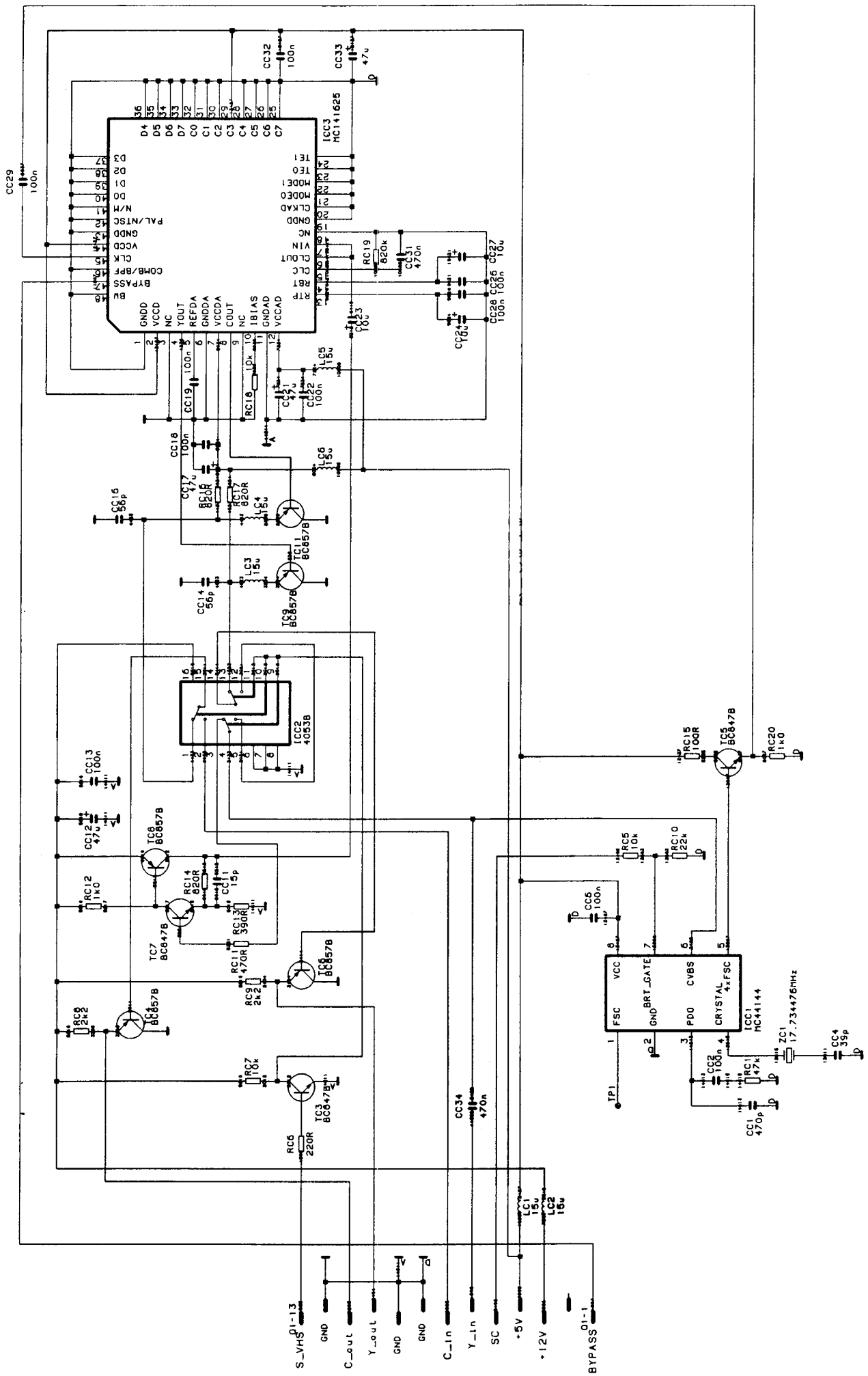


ACTIVE SUBWOOFER MODULE AV600

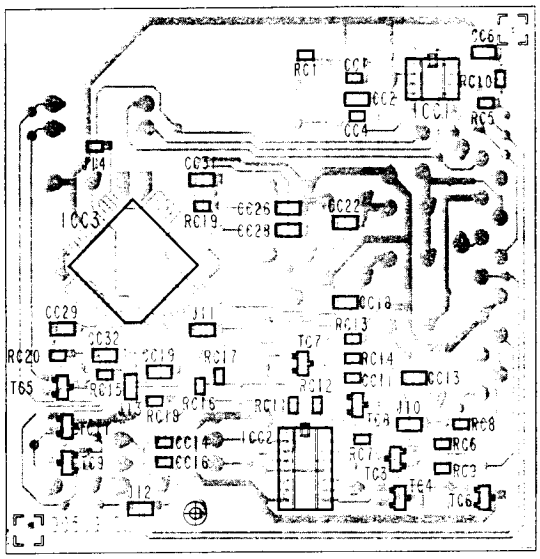


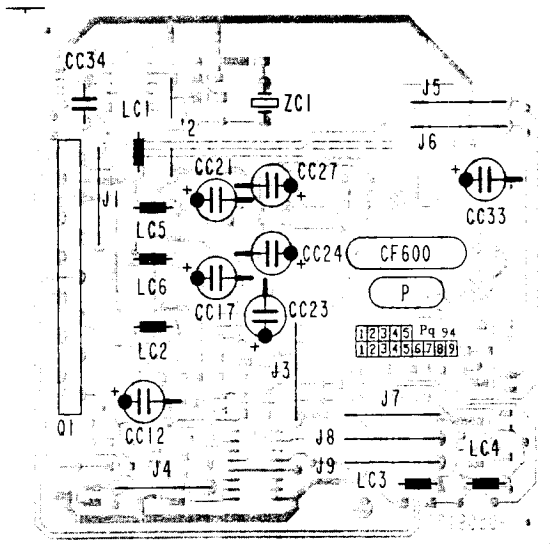



S_VHS
GND
C_out
Y_out
GND
GND
C_in
Y_in
SC
+5V
+12V
YPASS
TP1
ZC1
17.734476MHz

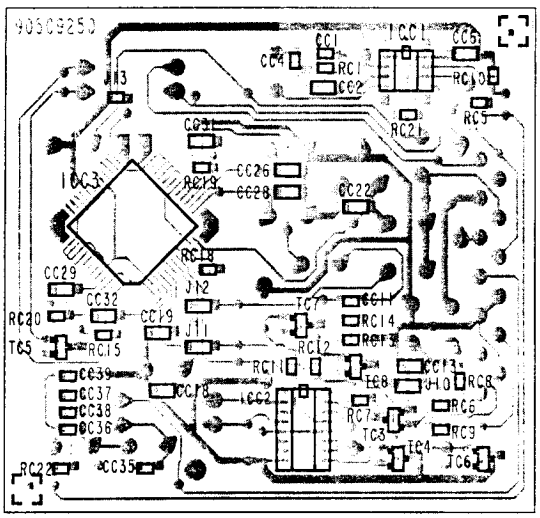

S_VHS
GND
C_out
Y_out
GND
GND
C_in
Y_in
SC
+5V
+12V
BYPASS
TP1
ICC3 MC141625
ICC2 4053B
ICC1 MC44144
CRYSTAL 4xFSC
17.734476MHz
IC5 BC847B
IC6 BC857B
IC7 BC847B
IC8 BC857B
IC9 BC857B
IC10 BC857B
IC11 BC857B
IC12 BC847B

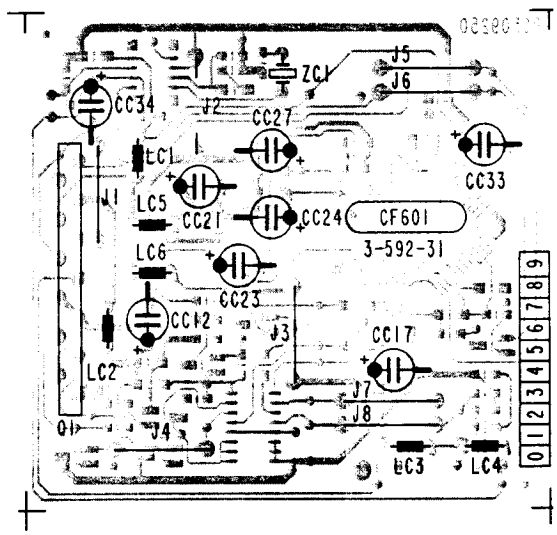
COMBFILTER MODULE CF600



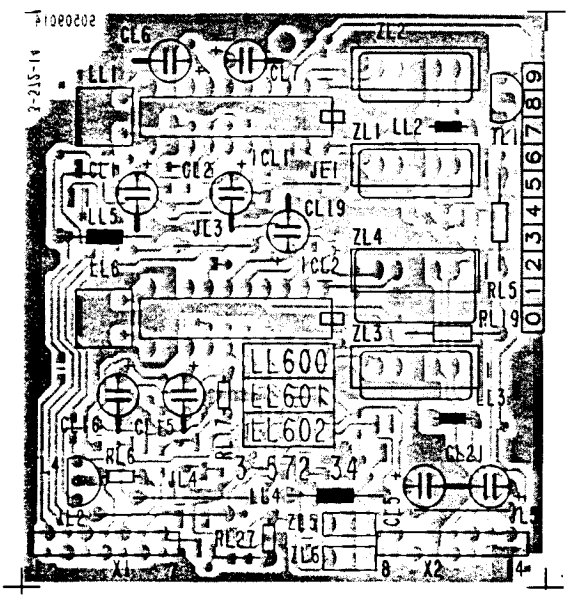


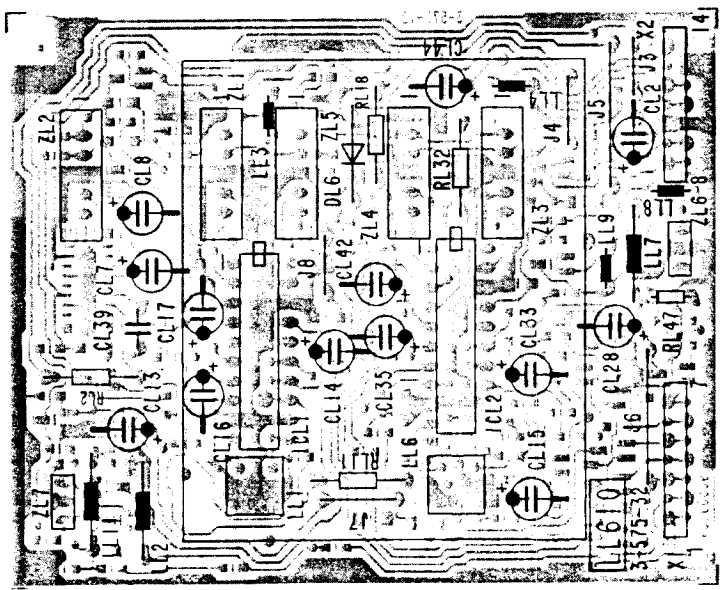
COMBFILTER MODULE CF601





IF-MODULE LL600, LL601, LL602, LL610





SERVICE INFORMATION

SERVICE ADJUSTMENTS

SERVICE MODE SELECTION

1. The receiver is set to the service mode by giving a service code.

In the service mode an adjustment menu (including the adjustment number and name, initializing (left) and adjustment (right)) values is shown on the screen.

2. Return from the service mode by switching off the receiver with the main switch.

REMOTE CONTROL BUTTONS IN SERVICE MODE

When in service mode you can select the normal TV mode by pressing the TV button and return to the service mode by pressing the i button.
Number and cursor buttons are used for service adjustment. The yellow button hides temporarely the service menu. The OK button stores the settings.

Adjustment for different signal types

First make all adjustments with normal RF signal. If the adjustment has to be made separately for other signal type (RGB), repeate only those adjustments.

Making the service adjustment

1. Select the service mode.
2. Give a two numbered code which determines the adjustment (e.g. 05 = horizontal phase, see the following tables) with the number buttons.

Note! The adjustments can also be selected with the cursor buttons (up-/downwards).

3. Adjust with the cursor buttons (left/right).
4. Store the new value by pressing the OK button.

Note! Each adjustment must be stored separately.

VERTICAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD-name
Vertical amplitude	00	V-ampl.
Vertical off-centre shift	01	V-shift
Vertical slope	02	V-slope
Vertical S-correction	03	S-corr.

HORIZONTAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD-name
EW width	04	Width
Horizontal phase	05	H-shift
H-phase RGB		
EW parabola	06	Parabola
EW corner	07	Corner
EW trapezium	08	Trapezium

O POWER SUPPLY BLOCK

Supply voltage and protection circuit

1. Set the brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Do11.
2. Adjust with Po1 the DC voltage for +140V (±1V).

K HORIZONTAL DEFLECTION BLOCK

Horizontal linearity

Adjust with Lk4.

Focusing

Set brightness and contrast to normal level. Use cross hatch pattern and adjust the picture for optimum resolution.

Screen grid voltage

1. Set contrast to minimum, brightness and colour saturation to normal level.
2. Use an oscilloscope and control the amplitude of the inserted black level clamp pulses during 3 line periods after vertical blanking on the ICh1 pin 9, 12 and 15.
3. Adjust with Ug2 the amplitude of the highest clamp pulse to + 140V.

L PICTURE AND SOUND IF MODULE

Video demodulator

1. Appy a test signal (1mV = 60dBµV).
2. Connect an universal voltmeter to the module connector X1 pin 6.
3. Adjust with LI6 the DC voltage to the point where it changes from 0 to 5 V.

Sound demodulator

1. Apply a CCIR B/G standard (FM modulated sound) test signal.
2. Connect a universal voltmeter to ICI1 pin 13.
3. Adjust with LI1 the DC voltage for +3.7V.

REGOLAZIONI DI SERVIZIO

SELEZIONE DEL MODO SERVIZIO

1. Per impostare il ricevitore in modo servizio è necessario immettere il relativo codice.

Quando il ricevitore è in modo servizio, viene visualizzato sullo schermo un menu delle regolazioni (indicante anche il nome ed il numero di ciascuna regolazione, i valori di inizializzazione (sinistra) e regolazione (destra)).

2. Per uscire dal modo servizio, spegnere il ricevitore tramite l'interruttore generale.

USO DEL TELECOMANDO NEL MODO SERVIZIO

Quando si è in modo servizio è possibile passare al normale modo TV, premendo il tasto TV sul telecomando ed eventualmente tornare al modo servizio premendo il tasto i, sempre sul telecomando.
Le regolazioni di servizio vengono effettuate tramite i tasti numerici ed i tasti cursore. Il tasto giallo nasconde temporaneamente il menu di servizio, mentre il tasto OK memorizza le impostazioni.

Diverso segnale

Effettuare prima tutte le regolazioni necessarie con il normale segnale RF. Se alcune regolazioni devono essere effettuate separatamente per un diverso tipo di segnale (RGB), ripetere soltanto quelle regolazioni.

Come effettuare le regolazioni di servizio

1. Selezionare il modo servizio.
2. Immettere tramite i tasti numerici il codice a due cifre relativo alla regolazione che si desidera effettuare (ad esempio, 05 = fase orizzontale; fare riferimento alle tabelle di seguito riportate).

Nota: Le regolazioni possono essere selezionate anche tramite i tasti cursore (su/giù).

3. Effettuare la regolazione tramite i tasti cursore (destra/sinistra).
4. Memorizzare i nuovi valori premendo il tasto OK.

Nota: Ogni regolazione deve essere memorizzata separatamente.

REGOLAZIONI VERTICALI DELL'IMMAGINE

Regolazione	Codice	Display
Ampiezza verticale	00	V-ampl.
Spostamento centratura verticale	01	V-shift
Pendenza verticale	02	V-slope
Correzione-S verticale	03	S-corr.

REGOLAZIONI ORIZZONTALI DELL'IMMAGINE

Regolazione	Codice	Display
Larghezza EW	04	Width
Fase orizzontale	05	H-shift
RGB fase H		
Parabola EW	06	Parab.
Angolo EW	07	Corner
Trapezoidale EW	08	Trapez

O BLOCCO ALIMENTAZIONE

Tensione di alimentazione e circuito di protezione

1. Regolare la luminosità ed il contrasto sui valori normali. Collegare un voltmetro universale al catodo di Do 11.
2. Regolare con Po1 la tensione cc a +140V (±1V).

K BLOCCO DEFLESSIONE ORIZZONTALE

Linearità orizzontale

Regolare con Lk 4.

Messa a fuoco

Regolare la luminosità ed il contrasto sui valori normali. Utilizzando un quadro di test, regolare l'immagine fino ad ottenere il livello di risoluzione ottimale.

Tensione di griglia schermo

1. Regolare il contrasto sul valore minimo e la luminosità e la saturazione colore sui valori normali.
2. Con un oscilloscopio controllare l'ampiezza degli impulsi di aggancio del livello del nero inserito (Inserted black level) per la durata di 3 righe dopo lo spegnimento verticale su ICh1 piedino 9, 12 e 15.
3. Con Ug2 regolare a +140V l'ampiezza dell'impulso di aggancio più alto.

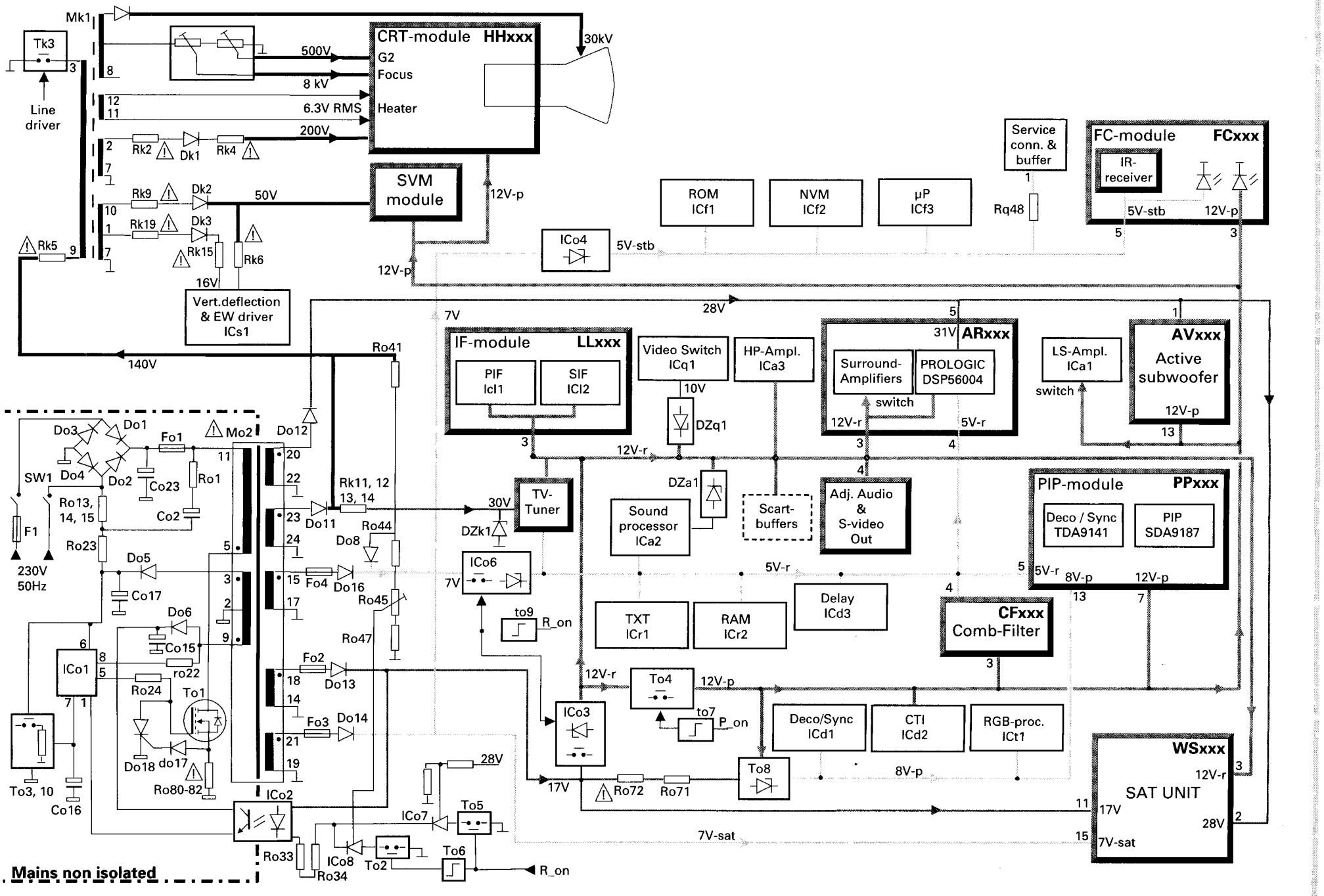
L MODULO FI VIDEO E AUDIO

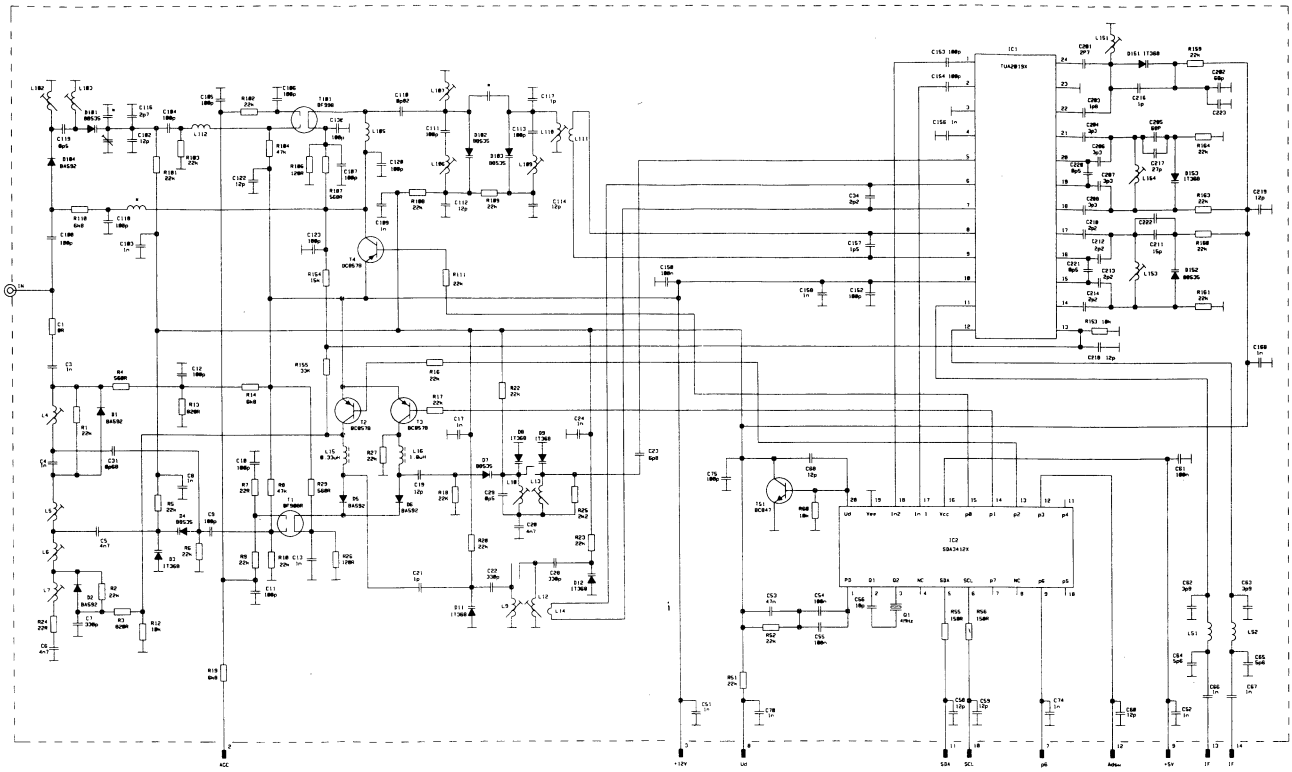
Demodulatore video

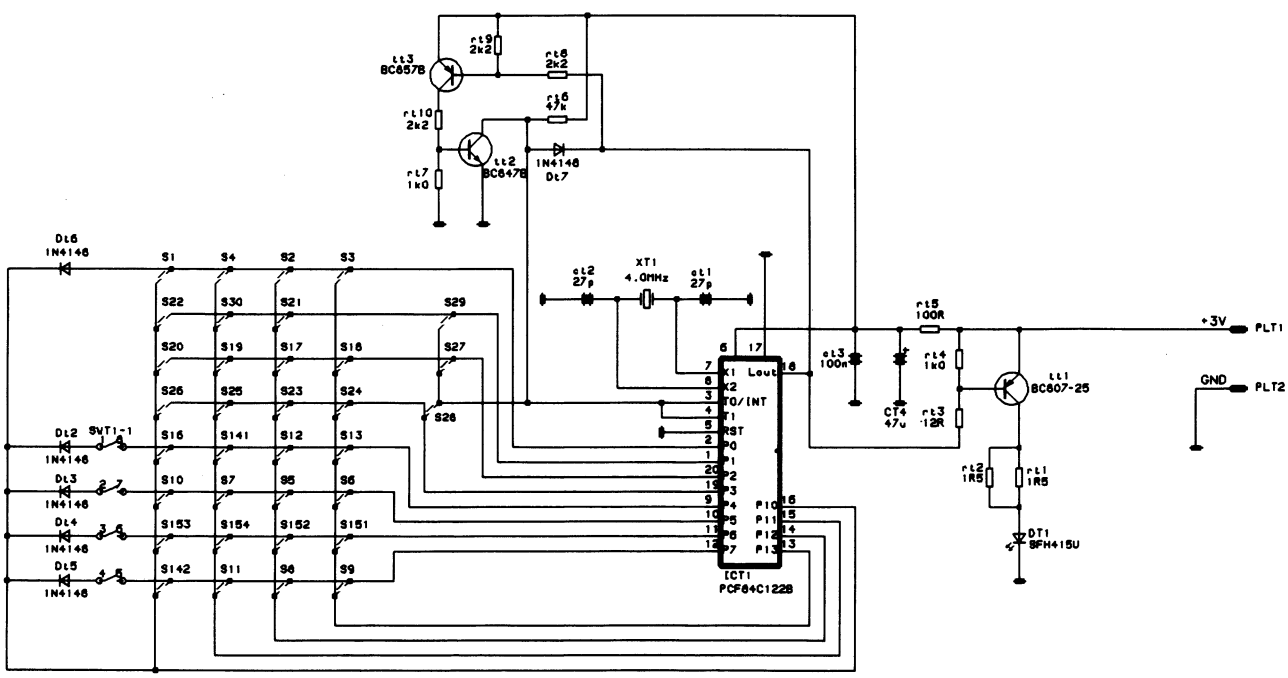
1. Applicare un segnale di test (1mV = 60dBµV).
2. Collegare un voltmetro universale al connettore del modulo X1 piedino 6.
3. Regolare con LI6 la tensione cc fino sul punto in cui passa da 0 a 5V.

Demodulatore audio

1. Applicare un segnale di test CCIR B/G standard (suono modulato FM).
2. Collegare un voltmetro universale a ICI1 piedino 13.
3. Regolare con LI1 la tensione cc a +3,7V.


Mk1
Tk3
Line driver
CRT-module HHxxx
G2
Focus
Heater
30kV
500V
8 kV
6.3V RMS
200V
SVM module
12V-p
Rk2
Dk1
Rk4
Rk9
Dk2
50V
Rk19
Dk3
Rk15
Rk6
16V
Rk5
Vert.deflection & EW driver ICs1
140V
Ro41
7V
28V
IF-module LLxxx
PIF IcI1
SIF ICI2
Video Switch ICq1
HP-Ampl. ICa3
10V
DZq1
12V-r
ROM ICf1
NVM ICf2
µP ICf3
Service conn. & buffer
Rq48
ICo4
5V-stb
FC-module FCxxx
IR-receiver
5V-stb
12V-p
31V ARxxx
Surround-Amplifiers
PROLOGIC DSP56004
switch
5V-r
LS-Ampl. ICa1
switch
AVxxx
Active subwoofer
12V-p
Do3
Do1
Fo1
Mo2
Do12
Do4
Do2
Co23
Ro1
SW1
Ro13, 14, 15
Co2
F1
230V 50Hz
Ro23
Do5
Co17
Do6
Co15
ro22
ICo1
Ro24
To1
Do18
do17
Ro80-82
To3, 10
Co16
ICo2
Rk11, 12 13, 14
Do11
Ro44
Do8
Fo4
Do16
Ro45
Ro47
Fo2
Do13
Fo3
Do14
Ro33
ICo8
Ro34
To2
ICo7
To5
To6
R_on
28V
30V
DZk1
TV-Tuner
ICo6
7V
to9
R_on
Sound processor ICa2
DZa1
Scart-buffers
Adj. Audio & S-video Out
5V-r
TXT ICr1
RAM ICr2
Delay ICd3
PIP-module PPxxx
Deco / Sync TDA9141
PIP SDA9187
5V-r
8V-p
12V-p
CFxxx Comb-Filter
12V-r
To4
12V-p
to7
P_on
ICo3
17V
Ro72
Ro71
To8
Deco/Sync ICd1
CTI ICd2
RGB-proc. ICt1
8V-p
WSxxx
SAT UNIT
12V-r
17V
28V
7V-sat
Mains non isolated





Remote control
Trasmettitore

LL600

TUNER
SINTONIZZATORE
VHF/UHF 75 OHM

IF MODULE
MODULO MEDIA FREQ.

SURR.SP
MODULO SURROUND

AV600
ACTIVE
SUBWOOFER
ATTIVO

MAINS ISOLATED

PARTE ISOLATA DALLE RETE

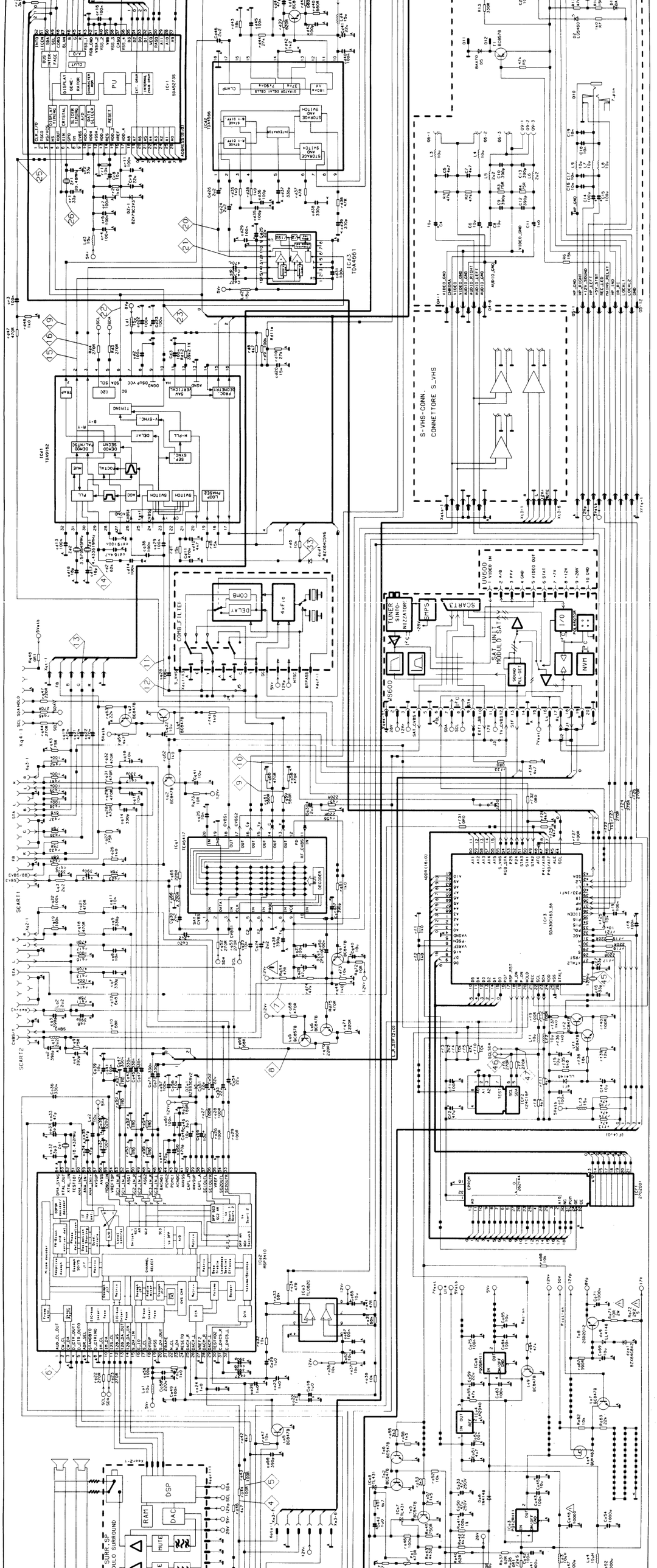
MAINS NON ISOLATED

PARTE NON ISOLATA DALLE RETE

BOBINE DI SMAGNETIZ.
DEM.COILS

SCART1

SCART2


S-VHS-CONN.
CONNETTORE S_VHS
TUNER
SINTO-
NIZZATORE
SMPS
SCART3
I/O
NVM
SAT UNIT
MODULO SAT
DSP
RAM
DAC
MUTE
COMB FILTER
DELAY
4.4 F.c
TDA9182
TDA4661
TDA9850
TDA8440
TDA8425
TDA8444
TDA8415
TDA8410
SDA2501/63.68
SCART1
SCART2
SCART3
EEPROM
24C16P
24C01
UV600
S600
S_VHS
BYPASS
NTSC
SECAM
PAL
SCL
SDA
5V
12V
-12V
28V
GND

IC41 TDA9162

IC42 TDA4566

IC43 TDA4661

IC1 SDA5273S

IC2 514400

IC11 TDA4680

IC41 TDA8350

IC1 TCA5101A

HH650

VM-MODULE
MODULO VM

CRT CONN.
ZOCCOLO CINESCOPIO

FOCUS
FUOCO

TEMIC

FOCUS AND UG2
POTENTIOMETER

PHILIPS

TUNER
SINTONIZZATORE

VIDEO-IF
IF VIDEO

DECO
DECOD.

AD
ANAL/DIGIT

PIP-
PROCESSOR
PROCESSORE
PIP

S-VHS-CONN.
CONNETTORE S_VHS

VERT. YOKE
GIOGO VERT.

HOR. YOKE
GIOGO ORIZ.

SMPS

START

I/O

UV600
1 VIDEO IN
2 A/B
3 PPV
4 GND
5 VIDEO OUT
6 STAT
7 +7V
8 +12V
9 +28V
10 GND

COMB_FILTER

DELAY

COMB

4xFsc

TUNER
SINTONIZZATORE

VH(5:0)

SCL

SDA

5Vstb

12Vp

8Vp

5Vr

30V

17V

B+

EHT 29kV

G1 G2 G3 G5

UG2

DST

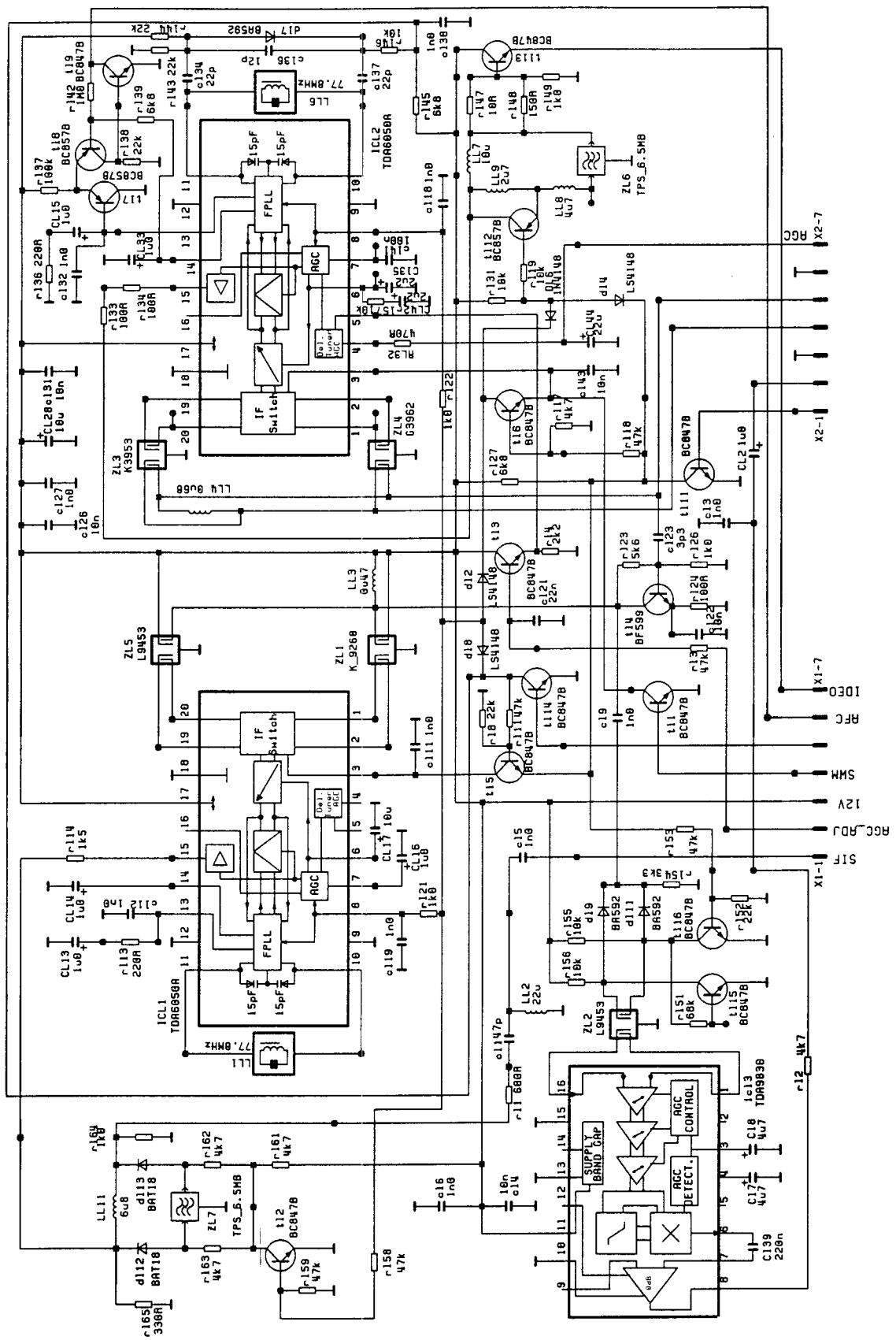
FOC2

FOC1

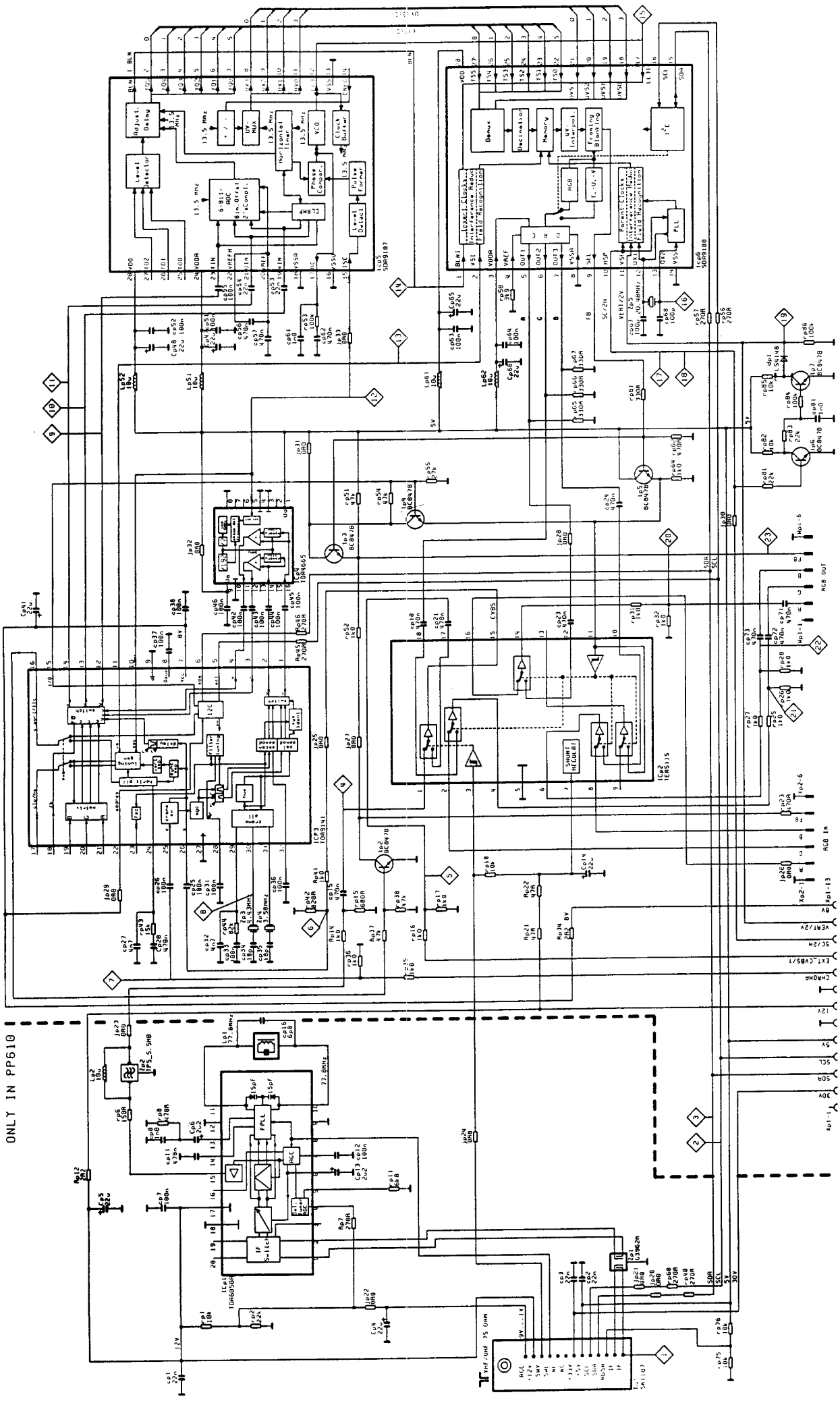
DYN

GND

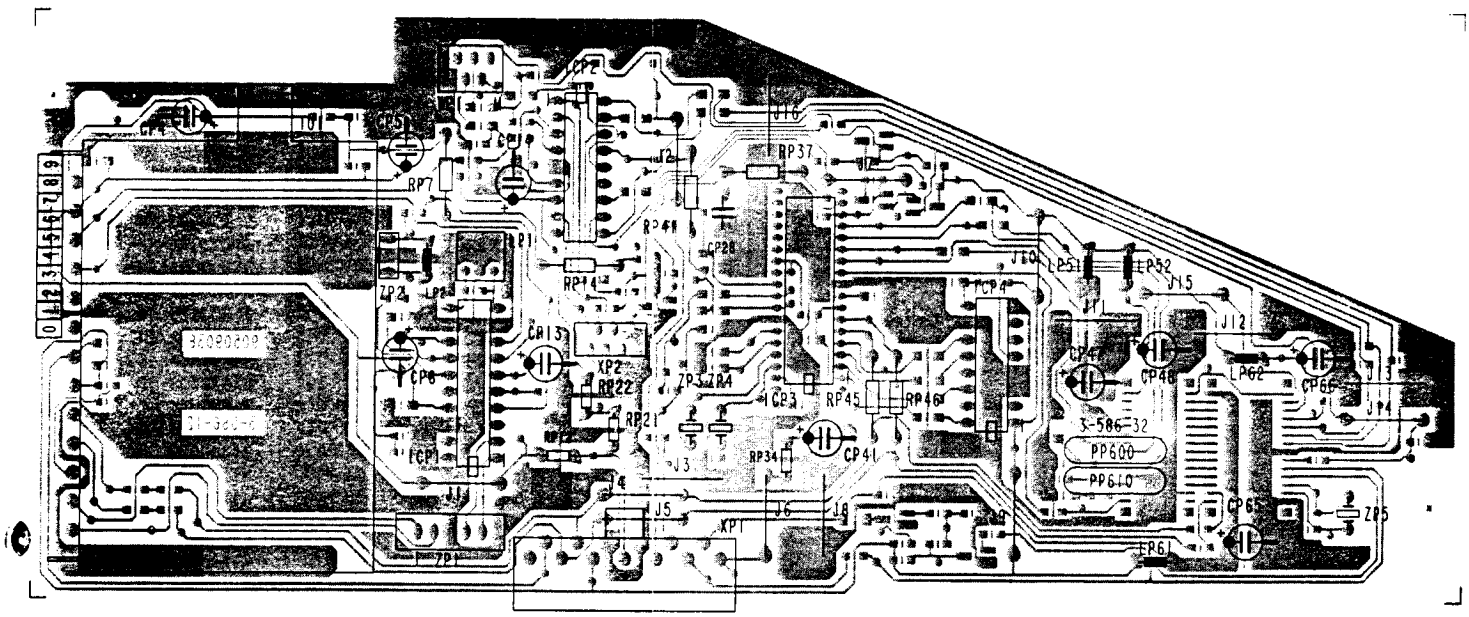
IF-MODULE LL610

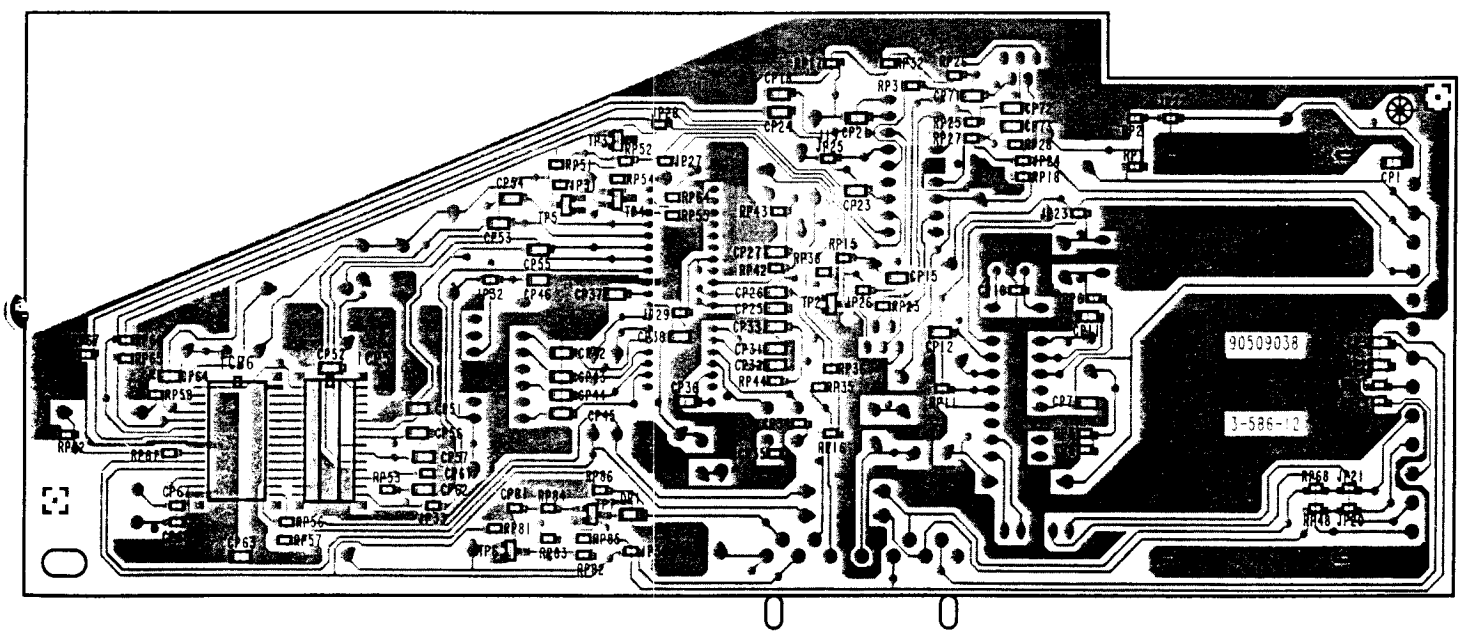


PICTURE IN PICTURE MODULE PP600/PP610 (WITH TUNER)



PICTURE IN PICTURE MODULE PP600/PP610 (WITH TUNER)





SPARE PARTS ERSATZTEILE RESERVDELAR PIECES DE RECHANGE PARTI DI RICAMBIO

⚠ Safety components in accordance with existing safety regulations. These components must be replaced only with original parts.
⚠ Sicherheitsbauteil im Sinn der Sicherheitsbestimmung. Diese Teile dürfen nur durch Originalteile ersetzt werden.
⚠ Skyddskomponenter. Dessa komponenter får endast ersättas med original reservdelar.
⚠ Composant de sécurité conformément aux reglementations de sécurité. Ces composants doivent être uniquement remplacés par des piéces d'origines.
⚠ Componenti di sicurezza ai sensi del regolamento di sicurezza. Queste componenti devono venir sostituite unicamente con parti originali.

MAIN BOARD

Item	Description	Order no.	PG
Pos.	Bezeichnung	Et-Nummer	PG
Pos.	Benämning	Art.nr.	PG
Article	Description	No de com.	CP
Ricambi	Descrizione	No. di rif.	CP

FTXXX			

SW-EPROM (Icf1) version number label is on top of the EPROM. When ordering a spare part, use the code LM0816FTA?? or LM0816FTB??.

Die Ausführungsnummer des SW-EPROM (Icf1) ist auf dem EPROM aufgeklebt. Wenn Sie dieser Ersatzteil bestellen, bitte verwenden Sie den Code LM0816FTA?? oder LM0816FTB??.

SW-EPROM (Icf1) versionnummeretiketten finns på EPROM. Vid beställning av reservdel, måste man använda kod LM0816FTA?? eller LM0816FTB??.

Le nombre de la version SW-EPROM (Icf1) est sur l'EPROM. Quand vous commanderez la pièce de rechange utilisez le code LM0816FTA?? ou LM0816FTB??.

La versione di EPROM è riportata sull' etichetta adesiva incollata sulla parte superiore dell' integrato stesso. Per ordinare la versione corretta usare il codice ricambi LM0816FTA?? o LM0816FTB??.

ICF 1	IC EPROM 27C2001 15 256K	LM0816FTA??	31
ICF 1	IC EPROM 27C2001 15 256K	LM0816FTB??	31

POWER BLOCK

RESISTORS

PO	1	TRIM HOR 470R 20%	31230006	3
FOCUS BLOCK ⚠		POT 144M 10% 1W	31250002	14
RD	11	180K 5% 0W25 FP	31630039	1
RK	1,41,47	100K 5% 0W25	31660030	1
RK	2 ⚠	1R5 5% 0W5 FP	31630014	2
RK	3 ⚠	0R47 5% 0W25	31514509	1
RK	4 ⚠	27R 5% 0W25 FP	31630021	1
RK	5 ⚠	1R0 5% 0W5	31850001	2
RK	6 ⚠,23 ⚠	10R 5% 0W25 FP	31514513	1
RK	7	47K 5% 0W1 SMD	31425836	1
RK	8	150K 5% 0W25	31660032	1
RK	9,19 ⚠	0R1 10% 0W4	31820003	2
RK	10	27K 5% 0W25	31660043	1
RK	11,12,13,14,46,52	5K6 5% 0W25 FP	31630028	1
RK	15 ⚠	0R68 5% 0W25 FP	31630017	1
RK	16,51	10K 5% 0W25 FP	31630031	1
RK	17	4K7 5% 0W25 FP	31514522	1
RK	20	56K 5% 0W25 FP	12601404	5
RK	25,30	1K0 5% 0W25 FP	31514519	1
RK	28	2K7 5% 0W1 SMD	31425821	1
RK	29	220R 5% 0W1 SMD	31425815	1
RK	31,32,33,34,36,37	2R2 5% 0W25 FP	31514511	1
RK	38	27R 5% 0W25	31660007	1
RK	39 ⚠	390R 10% 1W0	31850002	2
RK	40	1K8 5% 0W25	31660018	1
RK	42	180K 5% 0W25 FP	31630039	1
RK	43	100R 5% 0W1 SMD	31425852	1
RK	44	1K0 5% 0W1 SMD	31425820	1
RK	45	330R 5% 0W25	31660012	1
RK	50 ⚠	220K 5% 0W5	31460002	2
RO	1	6K8 5% 0W25 FP	31630029	1
RO	2	3K3 5% 0W25	31660019	1
RO	3	270R 5% 0W1 SMD	31425855	1

Item		Description	Order no.	PG
RO	4,5	150K 1% 0W6	31440017	1
RO	6,7	374K 1% 0W6	31440018	1
RO	10	4K32 1% 0W25 SMD	31490030	1
RO	11	24K 5% 0W25 SMD	31490031	1
RO	12,22	10K 5% 0W25 SMD	31425635	1
RO	13,14,15,23 ⚠	12K 5% 0W25 FP	31630032	1
RO	16,17	1R5 5% 4W0	31360002	5
RO	20	PTC Rs=24ohm	31940001	10
RO	21 ⚠	10M 5% 0W5	31460001	3
RO	24	27R 5% 0W25	31660007	1
RO	25	47R 5% 2W0	31430008	3
RO	26	4K7 5% 0W25	31660031	1
RO	27	33K 10% 9W0	31350002	8
RO	30,31	180K 5% 0W25 FP	31630039	1
RO	32	1K0 5% 0W25	31660016	1
RO	33,34	150R 5% 0W25	31660002	1
RO	35 ⚠	220R 5% 4W0	31430004	4
RO	36 ⚠	0R1 10% 0W4	31820003	2
RO	37,40	62R 5% 0W25 FP	31630024	1
RO	41	100K 1% 0W6	31440014	1
RO	42,43	4K32 1% 0W6	31440026	1
RO	44	3K01 1% 0W6	31440025	1
RO	45	750R 1% 0W6	31440023	1
RO	46	100K 5% 0W1 SMD	31425844	1
RO	47	1K47 1% 0W6	31440024	1
RO	51	4K7 5% 0W1 SMD	31425824	1
RO	52,68	10K 5% 0W1 SMD	31425833	1
RO	53,55	2K7 5% 0W1 SMD	31425821	1
RO	56,57	1K5 5% 0W1 SMD	31425826	1
RO	62	10K 5% 0W25	31660022	1
RO	63	22K 5% 0W25	31660025	1
RO	64	SMD 47K 5% 0W1	31425836	1
RO	65	47K 5% 0W25	31660026	1
RO	67	390R 5% 0W1 SMD	31425816	1
RO	71 ⚠	10R 5% 2W0	31430001	2
RO	72 ⚠	2R2 5% 0W25 FP	31514511	1
RO	73,74,76	15K 5% 0W1 SMD	31425835	1
RO	75	2K2 5% 0W1 SMD	31425828	1
RO	77	1K0 5% 0W1 SMD	31425820	1
RO	78,79	560R 5% 0W1 SMD	31425818	1
RO	80 ⚠,81⚠,82 ⚠	0R47 5% 0W6	31440019	1
RS	1	2K7 5% 0W1 SMD	31425821	1
RS	2,3	1R21 1% 0W6	31450008	1
RS	4	68K 5% 0W1 SMD	31425838	1
RS	6	4K7 5% 0W1 SMD	31425824	1
RS	7	22R 5% 0W1 SMD	31425849	1
RS	8,15	470R 5% 0W25 FP	31514520	1
RS	9	10K 5% 0W25 FP	31630031	1
RS	10	5K6 5% 0W25 FP	31630028	1
RS	11	1K0 5% 0W1 SMD	31425820	1

CAPACITORS

CK	1	100N 10% 250V	33360003	3
CK	2,28	4U7 20% 250V	34610001	4
CK	3,18	330P 10% 500V	32780002	1
CK	4	2N2 20% 500V	32780003	1
CK	6,10	6N8 10% 400V	33460006	3
CK	7,8	470N 10% 250V	33360005	4
CK	9	47U 20% 50V	34540028	2
CK	11	2200U 20% 25V	34510005	11
CK	12	100N 10% 63V	33127106	2
CK	13	100U 20% 25V	34540020	2
CK	14	100N 10% 63V	33124758	3
CK	15	220N 10% 100V	33380005	3
CK	16	56P 5% 50V	32180001	1
CK	17,32	220N 10% 63V	33127108	3
CK	23	150P 10% 500V	32780001	2
CK	24	5N6 10% 1KV	33460007	4
CK	26	11N 2,5% 1K6V	33460024	12
CK	27	390N 5% 250V	33460015	5
CK	29	150N 5% 250V	33460014	4
CK	33	680P K 500V	CC0190	1
CO	1	220N 10% 400V	33360002	4
CO	2	2U2 20% 350V	34630001	5
CO	3 ⚠,4 ⚠	2N2 20% 400VAC	32960001	4
CO	5,11	100N 20% 50V SMD	32790011	1
CO	6,7,8,9	3N3 20% 1KV	32760001	2
CO	10	100P 5% 50V SMD	32125515	1
CO	12 ⚠	1N5 20% 400VAC	32960002	4
CO	13	6N8 5% 63V	33480007	2
CO	14	10N 5% 400V	33360006	2

Item		Description	Order no.	PG
CO	15,16,40	1U0 20% 63V	34540022	2
CO	17	100U 20% 25V	34540020	2
CO	18	5N6 5% 160V	33460018	3
CO	19,39,42,43,46,51,62, 63,75	100N 10% 63V	33127106	2
CO	20	220P 5% 1K6V	33460009	4
CO	21	33N 5% 1KV	33460016	5
CO	22	47U 20% 16V	34540019	2
CO	23	220U 20% 385V	34260826	18
CO	31	470P 5% 1K6V	33850955	4
CO	32	100N 10% 250V	33360003	3
CO	33,50	47U 20% 250V	34610003	8
CO	36	470U 20% 40V	34510014	7
CO	37	220N 10% 63V	33127108	3
CO	38,44,49	1N0 10% 500V	32780004	1
CO	41	1000U 20% 35V	34510013	8
CO	45, 65,69	10U 20% 63V	34540025	2
CO	47,48 ⚠,52,54,71	1000U 20% 16V	34510004	7
CO	59,72	22U 20% 63V	34540026	1
CO	61	4U7 20% 63V	34540024	2
CO	64	100N 10% 63V	33127106	2
CO	73	4N7 10% 50V SMD	32790007	1
CS	1	22U 20% 63V	34540026	1
CS	2	100U 20% 25V	34540020	2
CS	3	470N 10% 63V	33127123	3
CS	4	470P 5% 50V SMD	32190013	1
CS	5	100N 20% 50V SMD	32790011	1
CS	10	100P 5% 50V SMD	32125515	1
CS	11	270P 5% 50V SMD	32125529	1
CS	12	2n2 20% 50V	23030545	6
TRANSISTORS				
TK	1	NPN BC547B 45V	36220002	1
TK	2	NPN BC637 60V 1A	36220003	3
TK	3	NPN PWR BU508AF 700V	36161384	11
TK	4	PNP PWR 2SB1375 60V	36270005	7
TK	5	NPN PWR BUX84F 400V	36270006	8
TO	1	N FET PWR IRFBC40 600V	36370001	13
TO	2,5,6	NPN BC547B 45V	36220002	1
TO	3,7,9	BC847B NPN SMD 45V	36145312	2
TO	4	N FET SMD BUK483 60A 60V	36380001	8
TO	8	NPN PWR 2SD2012 60V	36270004	5
TO	10	BC857B PNP SMD 45V	36145412	2
DIODES				
DK	1	RECT PWR BYV26C 600V	36610005	4
DK	2,3,6,13	RECT PWR BYV36C 600V	36575452	4
DK	4,5	1N4148 75V	36420002	1
DK	7	RECT PWR BY228 1K5V	36575543	6
DK	8	RECT PWR BY229F 800V	36610004	9
DK	10	LS4148 75V SMD	36490002	1
DK	11,12 (*)	RECT PWR BYV36C 600V	36575452	4
DO	1,2,3,4	RECT PWR BY527 1K25V	36610001	4
DO	5,6,8	1N4148 75V	36420002	1
DO	7	RECT PWR 1N4937 600V	36575353	2
DO	9	LS4148 75V SMD	36490002	1
DO	11	RECT PWR BY500 800V	36610002	5
DO	12,13	RECT PWR BYW98 200V	36575470	5
DO	14,16	SCHOTTKY SB545S 45V	36420003	6
DO	17	BAV99 70V SMD	36490003	2
DO	18	THYRISTOR MCR100 6 400V	36100001	5
DS	1	1N4148 75V	36420002	1
DS	2	LS4148 75V SMD	36490002	1
ZENERDIODES				
ZDK	1,9	BZX83B 30V 2%	36770005	1
ZDK	2	BZX84C 8V2 5% SMD	36780003	2
ZDO	1	BZX84C 8V2 5% SMD	36780003	2
ZDO	2	BZX85C 13V 5%	36770004	2
INTEGRATED CIRCUITS				
ICO	1	TDA4605 PWR CONT	37661430	15
ICO	2 ⚠	OPTO COUPL TCDT1101G	36950003	7
ICO	3	V REG PQ12RH11 12V	37460007	12
ICO	4	LM2940CT V REG 5V	37681840	9
ICO	6	V REG PQ05RH11 5V	37460008	12
ICO	7,8	VREF TL431CLP TO92	37410012	5
ICS	1	DEFL TDA8350Q-N3 DSP	37631427	19
FUSES				
FO	1 ⚠	F1,6A MINIATURE	43770002	4
FO	2 ⚠,3 ⚠,4 ⚠	T4,0A MINIATURE	43770003	5

Item		Description	Order no.	PG
TRANSFORMERS				
MK	1 ⚠	DST TRANSFORMER ELDOR	45360009	32
MK	2 ⚠	TRANSFORMER	45380015	12
MO	2	MAINS TRANSFORMER	45310003	23
COILS				
LK	1	280uH	45610004	6
LK	2	9mH	45610016	6
LK	3	1,9mH	45610006	9
LK	4	LIN COIL	45380021	11
LO	1	4.7UH 10% 820mA	45620008	2
LO	2,5,6	EMI SUPPRES BEAD 3.5x9	45620007	3
LO	3,4	8uH	45610001	3
LO	7	2.2UH 10% 520mA	45630003	3
OTHERS				
TO	1	ISOLATOR TO-220	49000085	3
TO	8	SCREW 3X8	61003204	4
TO	8	NUT 3MM	63013003	4
TO	8	WASHER	64013208	4
XO	1	ROW CONN 4 PIN	73190604	3
XO	2	ROW CONN 2 PIN	73184750	3
XS	1	ROW CONN 3 PIN	73190603	3
XK	1	CONN HEADER 6 PIN	41710002	3
XK	2	ROW CONN 3 PIN	41710007	2
DO	11,12,13	HEATSINK	81402596	5
TK	3,5	TRANSISTOR HOLDER	81403207	6
TK	4, ICO 3,6, ICS 1	TRANSISTOR HOLDER	81403207	6
TO	1	TRANSISTOR HOLDER	81403207	6
TK	3,5 DK 8	HEATSINK 4	81403753	8
TK	4, ICO 3,6, ICS 1	HEATSINK 3	81403747	8
TO	1	HEATSINK 1	81403722	7
TO	8	HEATSINK	81403877	0
		ANODE CABLE	96008479	11
		FOCUS CABLE	96008486	6
UG	2	SCREEN CABLE	96010141	7

RF BLOCK

RESISTORS				
J	15,22,51,161,241,243, 276,277	0R 5% 0W1 SMD	31425802	1
J	279,284,310,340	0R 5% 0W1 SMD	31425802	1
J	72,97,109,114,115, 120,127,130	0R 5% 0W1 SMD	31425802	1
RA	1,9	1R0 5% 0W1 SMD	31490020	1
RA	2,7	1K5 5% 0W1 SMD	31425826	1
RA	3,8	33R 5% 0W1 SMD	31425808	1
RA	4,6	6K8 5% 0W1 SMD	31425831	1
RA	10,12,13,14,16,30,45	33K 5% 0W1 SMD	31425840	1
RA	11	220R 5% 0W1 SMD	31425815	1
RA	17,40	100K 5% 0W1 SMD	31425844	1
RA	18	2R2 5% 4W0	31440010	4
RA	19,21,42,46	4K7 5% 0W1 SMD	31425824	1
RA	20,25,33,39	68K 5% 0W1 SMD	31425838	1
RA	22,23	270R 5% 0W1 SMD	31425855	1
RA	24	1K0 5% 0W1 SMD	31425820	1
RA	26,27,28,29,35,43,44	100R 5% 0W1 SMD	31425852	1
RA	31	180R 5% 0W25	31660010	1
RA	32,36,37,38,47	10K 5% 0W1 SMD	31425833	1
RA	34,41	47R 5% 0W1 SMD	31425809	1
RA	50,51,52,53,54,55	1M0 5% 0W1 SMD	31425801	1
RD	1,5	15K 5% 0W1 SMD	31425835	1
RD	2	82K 5% 0W1 SMD	31425843	1
RD	3,4	270R 5% 0W25	31660011	1
RD	6,73	10K 5% 0W1 SMD	31425833	1
RD	8	4K7 5% 0W1 SMD	31425824	1
RD	9	100K 5% 0W1 SMD	31425844	1
RD	10,44	27K 5% 0W1 SMD	31425839	1
RD	12	METF 39K2 1% 0W6	31450011	1
RD	35,36,48	1K0 5% 0W1 SMD	31425820	1
RD	37,38	47R 5% 0W1 SMD	31425809	1
RD	39	820R 5% 0W1 SMD	31425819	1
RD	40	680R 5% 0W1 SMD	31425860	1
RD	41	270R 5% 0W1 SMD	31425855	1
RD	42	1K2 5% 0W1 SMD	31425822	1
RD	43	18K 5% 0W1 SMD	31425813	1
RD	46,47	470R 5% 0W1 SMD	31425817	1
RD	74	47K 5% 0W1 SMD	31425836	1
RD	75	470R 5% 0W25	31660014	1
RF	2,23,25,30,36,37,41	1K0 5% 0W1 SMD	31425820	1
RF	3	2K2 5% 0W1 SMD	31425828	1
RF	4,10,21	10K 5% 0W1 SMD	31425833	1
RF	5	47K 5% 0W1 SMD	31425836	1

Item	Description	Order no.	PG
RF 6,7,24,26,42	270R 5% 0W1 SMD	31425855	1
RF 8,11,15,28,29,34,35	4K7 5% 0W1 SMD	31425824	1
RF 9,12,27,40	100R 5% 0W1 SMD	31425852	1
RF 17,18,19	220R 5% 0W1 SMD	31425815	1
RF 31,32	0R 5% 0W1 SMD	31425802	1
RF 33	6K8 5% 0W1 SMD	31425831	1
RF 35	6K8 5% 0W1 SMD	31425831	1
RF 38	18K 5% 0W1 SMD	31425813	1
RF 39	12K 5% 0W1 SMD	31425834	1
RQ 1	15K 5% 0W1 SMD	31425835	1
RQ 2,13,17,18,21,28,29,31, 32,58,60,66,68	470R 5% 0W1 SMD	31425817	1
RQ 3,64	4K7 5% 0W1 SMD	31425824	1
RQ 4,63	22K 5% 0W1 SMD	31425837	1
RQ 6,7,47,56,57, 70,71	220R 5% 0W1 SMD	31425815	1
RQ 8	47K 5% 0W1 SMD	31425836	1
RQ 9,11,23,27,33,36,43	75R 5% 0W1 SMD	31425861	1
RQ 10,24,69	68R 5% 0W1 SMD	31425876	1
RQ 12,37	6K8 5% 0W1 SMD	31425831	1
RQ 14,16,19,22, 38,39,41,42,74	100K 5% 0W1 SMD	31425844	1
RQ 15,26,49,51,62	1K0 5% 0W1 SMD	31425820	1
RQ 44,46,52,53	270R 5% 0W1 SMD	31425855	1
RQ 48	0R1 10% 0W4	31820003	2
RQ 54	47R 5% 0W25 FP	31514525	1
RQ 59,61	560R 5% 0W1 SMD	31425818	1
RQ 65	390R 5% 0W1 SMD	31425816	1
RQ 72,73	10R 5% 0W25 FP	31514513	1
RQ 75	10K 5% 0W1 SMD	31425833	1
RR 1	10K 5% 0W1 SMD	31425833	1
RR 2	1K0 5% 0W1 SMD	31425820	1
RR 3,4,6	3K9 5% 0W1 SMD	31425830	1
RR 7	2R2 5% 0W1 SMD	31490066	1
RR 15,16	1K5 5% 0W1 SMD	31425826	1
RT 11,20	3K9 5% 0W1 SMD	31425830	1
RT 12	82K 5% 0W1 SMD	31425843	1
RT 13,14,16	100R 5% 0W1 SMD	31425852	1
RT 17,18	270R 5% 0W25	31660011	1
RT 21	1K0 5% 0W1 SMD	31425820	1
RT 22	390R 5% 0W1 SMD	31425816	1
CAPACITORS			
CA 1,2,7	47U 20% 16V	34540019	2
CA 3,38,58	220U 20% 16V	34510003	3
CA 4,8,12,13,16,37, 41,57,61,67	100N 20% 50V SMD	32790011	1
CA 5,10	100P 5% 50V SMD	32125515	1
CA 6	3300U 20% 35V	34510009	10
CA 9,11	1000U 20% 25V	34510015	5
CA 14,17,59	10N 10% 50V SMD	32535918	1
CA 15,39,62,65	10U 20% 63V	34540025	2
CA 18,19,21,29	1U0 20% 63V	34540022	2
CA 22,23,24,26	1N0 10% 50V SMD	32536203	1
CA 27,28,68,69	390P 5% 50V SMD	32190012	1
CA 31,32	3P3 5% 50V SMD	32190011	1
CA 33,34,35	47P 5% 50V SMD	32125508	1
CA 42,43,45,47,70,71	C MKT 330N 10% 63V	33127113	3
CA 44,60	470P 5% 50V SMD	32190013	1
CA 46	3U3 20% 63V	34540029	1
CA 48,56,66	10U 20% 16V	34540032	5
CA 49	10n 10% 63V	24030702	6
CA 51,52,53,54	22U 20% 35V	34540021	2
CA 63,64	100N 10% 63V	33127106	2
CD 2,13,14,19,22,29,31,40, 45,47,48,49,50	100N 20% 50V SMD	32790011	1
CD 3	100N 10% 63V	33127106	2
CD 11,27,28	470N 10% 63V	33127123	3
CD 12,16	4N7 10% 50V SMD	32790007	1
CD 17,18	18P 5% 50V SMD	32125520	1
CD 20	15n 10% 50V SMD	23062584	6
CD 23	100U 20% 25V	34540020	2
CD 24,26,46	2U2 20% 63V	34540023	2
CD 25,41	22U 20% 35V	34540021	2
CD 35,36	100P 5% 50V SMD	32125515	1
CD 37,38,39	330P 5% 50V SMD	32125517	1
CD 42	120P 5% 50V SMD	32125523	1
CD 43	150P 5% 50V SMD	32125511	1
CD 44	68P 5% 50V SMD	32125516	1
CF 1,3,8,9	100N 20% 50V SMD	32790011	1
CF 2	47U 20% 16V	34540019	2
CF 4,5	10U 20% 63V	34540025	2
CF 6,7	33P 5% 50V SMD	32125507	1
CF 10,11	100P 5% 50V SMD	32125515	1
CQ 1,15,32,40,41	10U 20% 63V	34540025	2
CQ 2,3,4,6,12,13,37,38	390P 5% 50V SMD	32190012	1
CQ 7,9,14,17,	330P 5% 50V SMD	32125517	1
CQ 8,11,16,18,23,25	10N 10% 50V SMD	32535918	1

Item	Description	Order no.	PG
CQ 19,21,22	470N 80/20% SMD	32790012	2
CQ 20,24,30,31	2U2 20% 63V	34540023	2
CQ 26	47U 20% 16V	34540019	2
CQ 27,28,29,36	100N 20% 50V SMD	32790011	1
CQ 33,34,35,42,43	2N2 10% 50V SMD	32535904	1
CR 1,2	33P 5% 50V SMD	32125507	1
CR 3,4,6,7,10,11,15,16	100N 20% 50V SMD	32790011	1
CR 8	10U 20% 63V	34540025	2
CR 9	ELYT 22U 20% 35V	34540021	2
CR 12	ELYT 100U 20% 25V	34540020	2
CT 1,2,3,4,24	100N 20% 50V SMD	32790011	1
CT 5,21	ELYT 22U 20% 35V	34540021	2
CT 22	ELYT 1U0 20% 63V	34540022	2
CT 23	MKT 330N 10% 63V	33127113	3
CT 27	MKT 470N 10% 63V	33127123	3
CT 29	ELYT 10U 20% 63V	34540025	2
TRANSISTORS			
TA 3,4,5,6	BC847B NPN 45V SMD	36145312	2
TA 7	PNP SMD BC857B 45V	36145412	2
TD 1,2	BC847B NPN 45V SMD	36145312	2
TF 1,2	BC847B NPN 45V SMD	36145312	2
TQ 1,2,3,4,6	BC847B NPN 45V SMD	36145312	2
TQ 5	PNP SMD BC857B 45V	36145412	2
TT 1	BC847B NPN 45V SMD	36145312	2
DIODES			
DA 1	LS4148 75V SMD	36490002	1
DF 1	LS4148 75V SMD	36490002	1
DT 2,3	BAS16 75V SMD	36560318	2
ZENER DIODES			
ZDA 1	BZX83B 8V2 2%	36770009	1
ZDA 2	BZX84B 9V1 5% SMD	36780008	2
ZDD 1	BZX84C 5V6 5% SMD	36780006	2
ZDQ 1	BZX83C 10V 5%	36770002	1
ZDR 1	BZX83C 3V3 5%	36770001	1
ZDT1	BZX83C 8V2 5%	36770003	1
INTEGRATED CIRCUITS			
ICA 1	AUDIO TDA7262	37430008	15
ICA 2 RF-652	AUDIO MSP3400 SDIL64	37791273	29
ICA 2 RF-650	IAUDIO MSP3410 SDIL64	37430005	31
ICA 3	OPAMP NE5532N	37470005	8
ICD 1	VIDEO TDA9162 N3	37440007	28
ICD 2	VIDEO TDA4566 V2	37651397	16
ICD 3	VIDEO TDA4661	37651381	18
ICF 2	EEPROM 8x256x8	37860015	13
ICF 3	uP SMD SDA30C163	37850028	25
ICQ 1	VIDEO TEA6417	37440012	15
ICR 1	VIDEO SDA5273 SDIP52	37850030	33
ICR 2	MCM54400 DRAM 1MX4	37860013	36
ICT 1	VIDEO TDA4680-V6	37651394	20
COILS			
LA 1	10UH 10% 2R	45571699	5
LD 1,2	15UH 10% 610mA	45630004	3
LD 3,4	15UH 10% 610mA	45620006	3
LF 1,2	10UH 10% 230mA	45630002	3
LF 3	15UH 10% 610mA	45630004	3
LQ 1,2,3	2.2UH 10% 520mA	45630003	3
LQ 4,5,6,7	10UH 10% 230mA	45620003	3
LT 1	15UH 10% 610mA	45630004	3
TA 1,2	LINE FILTER 2x5uH	45390004	5
CHRYSTALS			
ZA 1	18.432MHz	45730003	8
ZD 1	4433.619kHz	45730002	9
ZD 2	3.579545MHz	45730001	8
ZF 1	12.00MHz	45730005	8
ZR 1	20.48MHz	45730004	10
TUNER			
	TUNER SK1110	58231012	36
OTHERS			
XO3	SCART CONNECTOR	41450292	7
XEX TG	SPEAKER CONN 4 PIN	41450612	10
ICF 3	IC SOCKET PLCC68	41562101	11
XOT	CONN HEADER 6 PIN	41710002	3

Item	Description	Order no.	PG
XTO	CONN HEADER 6 PIN	41710002	3
XOT A	CONN HEADER 8 PIN	41710003	3
XFF C	CONN HEADER 12 PIN	41710004	4
XTH	CONN HEADER 10 PIN	41710005	4
XOW S	CONN HEADER 20 PIN	41710006	5
XAA R2	WIRE CONN 4 PIN	41720005	6
XO4	CONN MODULAR 6 PIN	41910002	8
XO2	SCART CONN. BLUE	41910004	7
XIN TS	ROW CONN 4 PIN	73190604	3
XAA R1	ROW CONN 9 PIN	73190609	3
XT3	ROW CONN 13 PIN	73190613	4
XAA V	ROW CONN 13 PIN	73190613	44
ICA 1	TRANSISTOR HOLDER	81403207	6
ICA 1	HEATSINK 5	81403760	8
	HEATSINK 6	81403785	8
	WIRE BUNDLE 6 PIN	96010040	10
	IC SOCKET 8 POLE DIL	LZ0003	3
	IC SOCKET 32 POLE DIL	LZ0048	3

SF600 COMB FILTER

RESISTORS

JC 10, 11, 12, 13	0R 5% 0W25 SMD	31425601	1
JC 14	0R 5% 0W1 SMD	31425802	1
LC 3, 4	0R68 5% 0W25 FP	31630017	1
RC 1	47k 5% 0W1 SMD	31425836	1
RC 6	220R 5% 0W1 SMD	31425815	1
RC 8, 9	2k2 5% 0W1 SMD	31425828	1
RC 10	22k 5% 0W1 SMD	31425837	1
RC 11	470R 5% 0W1 SMD	31425817	1
RC 12, 20	1k0 5% 0W1 SMD	31425820	1
RC 13	390R 5% 0W1 SMD	31425816	1
RC 14, 16, 17	820R 5% 0W1 SMD	31425819	1
RC 15	100R 5% 0W1 SMD	31425852	1
RC 18, 5, 7	10k 5% 0W1 SMD	31425833	1
RC 19	820k 5% 0W1 SMD	31425885	1

CAPACITORS

CC 1	470p 5% 50V SMD	32190013	1
CC 4, 11	15p 5% 50V SMD	32125510	1
CC 12, 17, 21, 33	47u 20% 50V	34540028	2
CC 13, 18, 19, 2, 22, 26, 28, 29, 32, 6	100n 10% 50V SMD	32535920	1
CC 23	10u 20% 63V	34540025	2
CC 24, 27	4u7 20% 63V	34540024	2
CC 31	470n 80/20% 50V SMD	32790012	2
CC 34	470n 10% 63V	33127123	3

TRANSISTORS

TC 3, 5, 7	BC847B 45V 100mA SMD	36145312	2
TC 11, 4, 9, 8, 6	BC857B 45V 100mA SMD	36145412	2

INTEGRATED CIRCUITS

IC 1	VIDEO MC44144 SMD	37440015	13
IC 2	LOGIC 4053B SO16 SMD	37715194	6
IC 3	VIDEO MC141625 QFP48	37791115	27

CRYSTALS

ZC 1	17.734475 MHZ	44213136	11

COILS

LC 1, 2, 5, 6	15UH 10% 610mA	45630004	3

CONNECTORS

Q 1, 13	F-CONN 13-PIN	41750002	7

[illegible]

RESISTORS

JC 10, 11, 12, 13	0R 5% 0W25 SMD	31425601	1
RC 1	47k 5% 0W1 SMD	31425836	1
RC 6	220R 5% 0W1 SMD	31425815	1
RC 8, 9	2k2 5% 0W1 SMD	31425828	1
RC 10	22k 5% 0W1 SMD	31425837	1
RC 11	470R 5% 0W1 SMD	31425817	1
RC 12, 20	1k0 5% 0W1 SMD	31425820	1
RC 13	390R 5% 0W1 SMD	31425816	1
RC 14	680R 5% 0W1 SMD	31425860	1
RC 15	100R 5% 0W1 SMD	31425852	1
RC 18, 5, 7	10k 5% 0W1 SMD	31425833	1
RC 19	820k 5% 0W1 SMD	31425885	1
R 21	100k 5% 0W1 SMD	31425844	1
R 22	150k 5% 0W1 SMD	31425846	1

CAPACITORS

CC 1	470p 5% 50V SMD	32190013	1
CC 2, 6,13, 18, 19, 22, 26, 28, 29, 32,	100n 10% 50V SMD	32535920	1
CC 4	18p 5% 50V SMD	32125520	1
CC 11, 36	15p 5% 50V SMD	32125510	1
CC 12, 17, 21, 33	47u 20% 50V	34540028	2
CC 23	10u 20% 63V	34540025	2
CC 24, 27	4u7 20% 63V	34540024	2
CC 31	470n 80/20% 50V SMD	32790012	2
CC 35	27p 5% 50V SMD	32125509	1
CC 37	47p 5% 50V SMD	32125508	1
CC 38	56p 5% 50V SMD	32125526	1

TRANSISTORS

TC 3, 5, 7	BC847B 45V 100mA SMD	36145312	2
TC 4, 6, 8	BC857B 45V 100mA SMD	36145412	2

INTEGRATED CIRCUITS

IC 1	IC VIDEO MC44144 SMD	37440015	13
IC 2	IC LOGIC 4053B SO16 SMD	37715194	6
IC 3	IC VIDEO MC141625 QFP48	37791115	27

CRYSTALS

ZC 1	17.734475 MHZ	44213136	11

COILS

LC 1, 2, 5, 6	15 uH 10%	45630004	3
LC 3	12 uH 10%	45630015	3
LC 4	10 uH 10%	45630002	3

CONNECTORS

Q 1, 13	F-CONN 13-PIN	41750002	7

[illegible]

RESISTORS

RL 1, 11	220R 5% 0W1 SMD	31425815	1
RL 2	47k 5% 0W1 SMD	31425836	1
RL 3	2k2 5% 0W1 SMD	31425828	1
RL 4, 8, 28	1k0 5% 0W1 SMD	31425820	1
RL 7, 14, 25	100R 5% 0W1 SMD	31425852	1
RL 9	5k6 5% 0W1 SMD	31425825	1
RL 12	100k 5% 0W1 SMD	31425844	1
RL 13	27k 5% 0W1 SMD	31425839	1
RL 15	1M0 5% 0W1 SMD	31425801	1
RL 16	22k 5% 0W1 SMD	31425837	1
RL 17	12k 5% 0W1 SMD	31425834	1
RL 19	470R 5% 0W25	31660014	1
RL 26	150R 5% 0W1 SMD	31425812	1

CAPACITORS

CL 1, 2, 6, 15, 16	1u0 20% 63V	34540022	2
CL 3, 8, 11, 17, 18	1n0 10% 50V SMD	32536203	1
CL 4, 14	10n 10% 50V SMD	32535918	1
CL 5, 7	10u 20% 63V	34540025	2
CL 9	22n 20% 50V SMD	32790009	1
CL 10	47p 5% 50V SMD	32125508	1
CL 12, 20	100n 20% 50V SMD	32790011	1
CL 13	3p3 5% 50V SMD	32190011	1
CL 21	22u 20% 35V	34540021	2
CL 19	2u2 20% 63V	34540023	2

TRANSISTORS

ICL 1, 2	TDA6050	37440005	14
TL 2, 6, 9	BC847B 45V SMD	36145312	2
TL 3	BF599 25V SMD	36280003	4

Item	Description	Order no.	PG
TL 7, 8	BC857B 45V SMD	36145412	2
COILS			
LL 1, 6	ADJ. 0,26uH	45530003	5
LL 2	1.5uH 10% 570mA	45630001	3
LL 3	1.2uH 10% 610mA	45630006	3
LL 4	10uH 10% 230mA	45620003	3
LL 5	22uH 10% 170mA	45620005	3
FILTERS			
ZDL 6	FIL CER TPS 5.5 MB	45558410	4
ZL 4	SAW FILTER G3962 M	45740003	16
ZL 2	SAW FILTER G9251 M	45740004	14
CONNECTORS			
	F-CONN 7-PIN	41750001	5

LL610 IF-MODULE

RESISTORS			
J 15,13,10,9	0R 5% 0W1 SMD	31425802	1
RL 2	4K7 5% 0W25	31660031	1
RL 3,53,59,58	47K 5% 0W1 SMD	31425836	1
RL 4	2K2 5% 0W1 SMD	31425828	1
RL 8,38,43, 44,52	22K 5% 0W1 SMD	31425837	1
RL 11,18	47K 5% 0W25	31660026	1
RL 13,36,1	220R 5% 0W1 SMD	31425815	1
RL 14	330R 5% 0W1 SMD	31425857	1
RL 17,61,62,63	4K7 5% 0W1 SMD	31425824	1
RL 19,31,46,55,56,57	10K 5% 0W1 SMD	31425833	1
RL 21,22,26,49,64,65	1K0 5% 0W1 SMD	31425820	1
RL 23	5K6 5% 0W1 SMD	31425825	1
RL 24,33,34	00R 5% 0W1SMD	31425852	1
RL 27,39,45	6K8 5% 0W1 SMD	31425831	1
RL 32	CARF 470R 5% 0W25	31660014	1
RL 37	100K 5% 0W1 SMD	31425844	1
RL 42	1M0 5% 0W1 SMD	31425801	1
RL 47	CARF 10R 5% 0W25 FP	31514513	1
RL 48	150R 5% 0W1 SMD	31425812	1
RL 51	68K 5% 0W1 SMD	31425838	1
RL 54	3K3 5% 0W1 SMD	31425829	1
CAPACITORS			
CL 1	47P 5% 50V SMD	32125508	1
CL 2,13,14,15,16,33	1U0 20% 63V	34540022	2
CL 4,22,26,31,43	10N 10% 50V SMD	32535918	1
CL 7,8,42	4U7 20% 63V	34540024	2
CL 3,5,6,11,9, 12, 18,19,27,32,38	1N0 10% 50V SMD	32536203	1
CL 17,28	10U 20% 63V	34540025	2
CL 21	22N 20% 50V SMD	32790009	1
CL 23	3P3 5% 50V SMD	32190011	1
CL 34,37	22P 5% 50V SMD	32125521	1
CL 35	2U2 20% 63V	34540023	2
CL 36	12P 5% 50V SMD	32124707	1
CL 39	220N 10% 63V	33127108	3
CL 41	100N 20% 50V SMD	32790011	1
CL 44	100U 20% 16V	34540031	2
TRANSISTORS			
TL 1,2,3,5,6,9,11, 13,14,15,16	BC847B 45V 100mA SMD	36145312	2
TL 4	BF599 25V 25mA SMD	36280003	4
TL 7,8,12	BC857B 45V 100mA SMD	36145412	2
DIODES			
DL 2,4,8	LS4148 75V 200mA SMD	36490002	1
DL 6	1N4148 75V 200mA	36420002	1
DL 7,9,11	BA592 35V 100mA SMD	36490004	3
DL 12,13	BAT18 35V 100mA SMD	36630001	3
INTEGRATED CIRCUITS			
ICL 1,2	TDA6050 DIL20	37440005	14
ICL 4	TDA9830 SMD	37430009	14

Item	Description	Order no.	PG
COILS			
LL 1	135nH	45530017	5
LL 2	22uH 10% 170mA	45620005	3
LL 3	470nH 20% 750mA	45630017	3
LL 4	0.68uH 10% 530mA	45630012	3
LL 6	0,23uH	45530006	5
LL 7	10uH 10% 230mA	45620003	3
LL 8	4,7uH	31301099	6
LL 9	2.7uH 10% 480mA	45630018	3
LL 11	6,8uH	31300401	6
FILTERS			
ZL 1	SAW FILTER G9251 M	45740004	14
ZL 2	SAW FILTER L9453	45740010	18
ZL 3	SAW FILTER K3953	45740017	18
ZL 4	SAW FILTER G3962 M	45740003	16
ZL 5	SAW FILTER K9260 M	45740008	15
ZL 6,7	TPS 6.5 MB	45558412	5
CONNECTORS			
X 1,2	F-CONNECTOR 7 PIN	41750001	5

AV600 ACTIVE SUBWOOFER

RESISTORS			
JAV 5,6	0R 5% 0W1 SMD	31425802	1
RAV 1,7,9,20,24,38,40	150k 5% 0W1 SMD	31425846	1
RAV 2,3,6,15,16,17,18, 19,21,37	33k 5% 0W1 SMD	31425840	1
RAV 4,5,39	4k7 5% 0W1 SMD	31425824	1
RAV 8	22k 5% 0W1 SMD	31425837	1
RAV 10,11,12	220k 5% 0W1 SMD	31425847	1
RAV 13,14	470R 5% 0W1 SMD	31425817	1
RAV 22,27	47R 5% 0W1 SMD	31425809	1
RAV 23	220R 5% 0W1 SMD	31425815	1
RAV 25,28	1k8 5% 0W1 SMD	31425827	1
RAV 26,34,36	1k5 5% 0W1 SMD	31425826	1
RAV 29,3	1R0 5% 0W1 SMD	31490020	1
RAV 31,32	470k 5% 0W065 SMD	12812812	1
RAV 33,35	47k 5% 0W1 SMD	31425836	1
CAPACITORS			
CAV 1,2,3,4,8,9	47N 10% 50V SMD	32790008	1
CAV 5	1n0 10% 50V SMD	32536203	1
CAV 6,12	100u 20% 25V	34540020	2
CAV 7,10,18,19,20	100n 20% 50V SMD	32790011	1
CAV 13,15,22,23,26	1u0 M 50V	CN0150	2
CAV 16,17	22u 20% 35V	34540021	2
CAV 21	10u 20% 63V	34540025	2
CAV 24,25	6n8 5% 50V SMD	23066417	6
CAV 27	1000u 16V	25024511	6
ZENERDIODES			
ZAV 1	9V1 5 % SMD	41007200	3
DIODES			
DAV 1,2	1N4148 75V	36420002	1
TRANSISTORS			
TAV 1,3,4,5,7	BC847B SMD	36145312	2
TAV 2,6	BC857B SMD	36145412	2
INTEGRATED CIRCUITS			
ICAV 1,2	TL082CD SMD	37470003	5
ICAV 3	4053B SMD	37715194	6
ICAV 4	TDA7262	37430008	15
CONNECTORS			
XAV 1	MODULE CONN 13-PIN	41720003	6
XAV 2	ROW CONN 3-PIN	73190603	3

AR600 SURROUND SOUND MODULE

Item	Description	Order no.	PG
RESISTORS			
R 1,6,137,138	220K 5% 0W1 SMD	31425847	1
R 4,5,42,44	10K0 1% 0W1 SMD	31490057	1
R 28	150R 5% 0W1 SMD	31425812	1
R 30,35	68R 5% 0W1 SMD	31425876	2
R 31,34	2K74 1% 0W1 SMD	31490048	1
R 32,36	1R0 5% 0W1 SMD	31490020	1
R 43	10R 5% 0W1 SMD	31425810	1
R 45,74,77	100R 1% 0W1 SMD	31490055	1
R 46,139	46K4 1% 0W1 SMD	31490054	1
R 47	14K7 1% 0W1 SMD	31490052	1
R 48	6K8 5% 0W1 SMD	31425831	1
R 49,108,123,73	10K0 1% 0W1 SMD	31490057	1
R 54	1K2 5% 0W1 SMD	31425822	1
R 55,56	3K32 1% 0W1 SMD	31490024	1
R 57,58,111,121	3K32 1% 0W1 SMD	31490024	1
R 59	3K9 5% 0W1 SMD	31425830	1
R 60	820R 5% 0W1 SMD	31425819	1
R 61,62,17	1K00 1% 0W1 SMD	31490056	1
R 64,63	681R 1% 0W1 SMD	31490045	1
R 65	464R 1% 0W1 SMD	31490044	1
R 67	150R 5% 0W1 SMD	31425812	1
R 69	22R 5% 0W1 SMD	31425849	1
R 72,70,71	1K5 5% 0W1 SMD	31425826	1
R 75,76,78,79,102,128	100R 1% 0W1 SMD	31490055	1
R 101,127	2K74 1% 0W1 SMD	31490048	1
R 103,129	5K62 1% 0W1 SMD	31490050	1
R 104,117,118	2K15 1% 0W1 SMD	31490047	1
R 105	332R 1% 0W1 SMD	31490043	1
R 106,113,116,132,134	10K0 1% 0W1 SMD	31490057	1
R 107,136	10R 5% 0W1 SMD	31425810	1
R 109	17K8 1% 0W1 SMD	31490053	1
R 110	1K78 1% 0W1 SMD	31490046	1
R 112,119	215R 1% 0W1 SMD	31490042	1
R 114	681R 1% 0W1 SMD	31490045	1
R 115,27,140,141,142	46K4 1% 0W1 SMD	31490054	1
R 120,50,53	4K64 1% 0W1 SMD	31490049	1
R 122	14K7 1% 0W1 SMD	31490052	1
R 124	12K1 1% 0W1 SMD	31490051	1
R 125,126,81	4K64 1% 0W1 SMD	31490049	1
R 130	2K15 1% 0W1 SMD	31490047	1
R 131	332R 1% 0W1 SMD	31490043	1
R 133,29,33	1K00 1% 0W1 SMD	31490056	1
R 135	17K8 1% 0W1 SMD	31490053	1
CAPACITORS			
C 1	220N 10% 63V	33127108	3
C 3,55,135	10U 20% 63V	34540025	2
C 4,5,12,2,34,36,38,	100N 20% 50V SMD	32790011	1
C 9,58,59,57	2U2 20% 63V	34540023	2
C 11,16	1000U 20% 35V	34510013	8
C 13,17	47U 20% 50V	34540028	2
C 14	470U 20% 50V	34510007	11
C 15,18	100N 10% 63V	33127106	2
C 39,40,41,43,44,45	100N 20% 50V SMD	32790011	1
C 47,1	220U 20% 35V	34510008	4
C 51,53	100U 20% 25V	34540020	2
C 60	47N 10% 63V	33380008	2
C 62	33N 10% 63V	33380007	2
C 63,74,42	100N 20% 50V SMD	32790011	1
C 64	10N 10% 50V SMD	32535918	1
C 65,136	10N 10% 50V SMD	32535918	1
C 66,68	6N8 5% 50V SMD	32790013	1
C 67	6N8 5% 50V SMD	32790013	1
C 75,76	22P 5% 50V SMD	32125521	1
C 77	100P 5% 50V SMD	32125515	1
C 101,113,127	2N2 2% 50V SMD	32190026	2
C 102,106	1N2 2% 50V SMD	32190024	3
C 103,114,129	680P 2% 50V SMD	32190022	3
C 104	220P 2% 50V SMD	32190020	2
C 105,131	5N6 2,5% 63V	33622810	4
C 108,116,125,134	22U 20% 35V	34540021	2
C 109	3N3 2.5% 63V	33622804	3
C 110	10N 2,5% 63V	33480009	4
C 111	1N0 2% 50V SMD	32190023	3
C 112,119,71	470P 2% 50V SMD	32190021	3
C 117,126,69,70	2N2 2% 50V SMD	32190026	2
C 118	180P 2% 50V SMD	32190019	2
C 120	6N8 2,5% 63V	33480008	2
C 121	1N5 2% 50V SMD	32190025	3
C 122	120P 2% 50V SMD	32190018	2
C 123,128,132	1N2 2% 50V SMD	32190024	3
C 130,72	220P 2% 50V SMD	32190020	2

Item	Description	Order no.	PG
TRANSISTORS			
T 4,5,6,13	TPNP BC857B 45V SMD	36145412	2
T 7,8	NPN BC847B 45V SMD	36145312	2
T 9,10,3,14	NPN BC847B 45V SMD	36145312	2
T 11,12,16,17	N-FET 2N7002 60V SMD	36380002	4
T 15	N-FET 2N7002 60V SMD	36380002	4
DIODES			
D 1,9	BAV70 70V SMD	36561954	2
D 2,3	BAV70 70V SMD	36561954	2
ZENERDIODES			
D 8	BZX84C 9V SMD	36780007	2
INTEGRATED CIRCUITS			
IC	IC AUDIO TDA7262	37430008	15
IC 1	IC AUDIO DSP56004 SMD	37850029	36
IC 3	IC SRAM 32kx8 SMD	37860025	22
IC 4	IC DAC TDA1543 DIL8	37880002	18
IC 9,101,102,103	IC OPAMP TL082CD SMD	37470003	5
COILS			
L 2	LINE FILTER BLK 2x5uH	45390004	5
L 1	COIL 10UH 10% 230mA	45630002	3
OTHERS			
	MODULE HOLDER	54041342	4
	SCREW M2,5x6mm	61001804	1
	SCREW 3X8	61003204	4
	SCREW 3X8	61003204	4
	ROW CONNECTOR 4-PIN	73190604	4
	HEATSINK 50mm SK68	81403777	15
	MODULE SUPPORT	81403860	4
	WIRE BUNDLE SURROUND	96010127	9
	WIRE BUNDLE L=130	SE2473	7
	PUSH-BUTTON SWITCH	41220002	15
	MODULE CONN 9 PIN	41720002	6
	WIRE CONN SOCKET 4-PIN	41740003	3
	SPEAKER CONNECTOR	41910003	5

HH650 CRT-MODULE

RESISTORS			
RH 3,12,16	4K7 5% 0W25 FP	31514522	1
RH 4,13,17	39K 5% 1W0	31440007	2
RH 5,10,15	150R 5% 0W1 SMD	31425812	1
RH 6,7,8	680R 5% 0W1 SMD	31425860	1
RH 9,11,14	1K5 5% 0W1 SMD	31425826	1
RH 18,19,21,22,23,24	470R 5% 0W25	31660014	1
RH 26	33K 5% 0W25 FP	31630036	1
RH 27	4M7 5% 0W25	31660029	1
RH 28,33	1K5 10% 0W5	31594639	3
RH 29	8K2 5% 0W25	31660021	1
RH 31	22R 5% 0W1 SMD	31425849	1
RH 36	100K 5% 0W1 SMD	31425844	1
RH 37	2K2 5% 0W1 SMD	31425828	1
CAPACITORS			
CH 3	22N 20% 50V SMD	32790009	1
CH 5	68P 5% 50V SMD	32125516	1
CH 6,11,16	470P 5% 50V SMD	32190013	1
CH 15	100N 10% 250V	33360003	3
CH 17	4U7 20% 250V	34610001	4
CH 18	10U 20% 250V	34610002	5
CH 19	22N 10% 250V	33380002	2
CH 21	470N 10% 63V	33127123	3
CH 22	8N2 10% 1K5V	33360007	4
CH 27	1U0 20% 63V	34540022	2
TRANSISTORS			
TH 1	NPN BF422 250V 92	36125217	10
DIODES			
DH 1,2	RECT PWR BYV36C	36575452	4
DH 3,4,5	LS4148 75V SMD	36490002	1

Item			Description	Order no.	PG
INTEGRATED CIRCUITS					
			VIDEO TEA5101A	37661190	15
COILS					
LH	1		10UH 10% 230mA	45620003	3
OTHERS					
			CRT SOCKET	41554034	4
			TRANSISTOR HOLDER	81403207	6
			HEATSINK VIDEO OUTPUT	81403582	5
			G2 CABLE	96008493	6
XH2	1		WIRE BUNLE 10 PIN	96010002	11
XH1	1		WIRE BUNDLE 6 PIN	96010019	10

FC600,601 CONTROL MODULE

RESISTORS					
J	1	(FC 600)	0R 5% 0W25 SMD	31425601	1
R	1,2	(FC 600)	47k 5% 0W25 SMD	31425639	1
R	3, 4	(FC 600)	75R 5% 0W25 SMD	31425669	1
R	8, 9		270R 5% 0W25 SMD	31425613	1
R	10,17		47k 5% 0W25 SMD	31425639	1
R	11,16,18		15k 5% 0W25 SMD	31425637	1
R	12,7		1k0 5% 0W25 SMD	31425622	1
R	13		330R 5% 0W25 SMD	31425614	1
R	14		100k 5% 0W25 SMD	31425646	1
R	15		10k 5% 0W25 SMD	31425635	1
R	21,22	(FC 601)	2k2 5% 0W25	31660037	1
CAPACITORS					
C	1, 2 ⚠		100n 20% 250VAC	33260001	4
C	5, 7	(FC 600)	4n7 10% 50V SMD	32790007	1
C	8, 20		10u 20% 35V	34540027	2
C	10, 13	(FC 600)	390p 5% 50V SMD	32125646	2
C	11	(FC 600)	1n0 10% 50V SMD	32535901	1
C	14, 15		100u 20% 25V	34540020	2
C	16, 17, 18, 19		10n 10% 50V SMD	32535918	1
C	21,22	(FC 600)	15p 5% 50V	23030099	6
C	21,22	(FC 601)	15p 5% 63V	32180003	1
TRANSISTORS					
T	2, 4		BC857B 45V SMD	36145412	2
T	3		BC847B 45V SMD	36145312	2
DIODES					
D	1		BAV70 70V 215mA SMD	36561954	2
D	2		LED LG5460GK GREEN 5mm	36910005	3
D	3, 4		LED LS5460HL RED 5mm	36910004	3
INTEGRATED CIRCUITS					
IC	1		IR RECEIVER SFH506 38	36940001	14
FUSES					
F	1 ⚠		T3.15A	43751652	3
COILS					
L	1, 2	(FC 601)	56uH 1.5A5	45620009	6
L	1, 2		56uH 1.5A	31300236	11
L	3, 4, 7, 8, 9		10uH 10% 230mA	45630002	3
L	5, 6		2.2uH 10% 520mA	45630003	3
M	1 ⚠		MAINS COIL 2x27mH	45390003	15
OTHERS					
SW	1, 2, 3, 4		TACTILE SWITCH	41150685	9
SW	1		MAINS SWITCH 250V 4/80A	41210004	13
F	1		FUSEHOLDER CLIPS	41540001	1
Q	6	(FC 600)	CONN RCA 3 IN ROW	41430747	9
Q	9	(FC 600)	CONN S VHS	41452244	10
Q	10		CONN PHONO 3.5mm	41910001	8
Q	1		ROW CONN 2 PIN	73184701	3

Item		Description	Order no.	PG
A	1	COVER FOR CAMERA CONN.	81403599	3
A	2	MODULE SUPPORT	81408167	3
Q	2	WIRE BUNDLE 2 PIN	96008011	5
Q	5	WIRE BUNDLE 12 PIN	96010026	13
Q	4	WIRE BUNDLE 8 PIN	96010033	12

PP610 PICTURE IN PICTURE MODULE

RESISTORS				
JP	20,21,22,23,24,25,26,27, 28,29,31,32,30,33	0R 5% 0W1 SMD	31425802	1
RP	1,18,75,82,85	10K 5% 0W1 SMD	31425833	1
RP	2,81,83	22K 5% 0W1 SMD	31425837	1
RP	6	150R 5% 0W1 SMD	31425812	1
RP	7,45,46	270R 5% 0W25	31660011	1
RP	11	6K8 5% 0W1 SMD	31425831	1
RP	12,34	2R2 5% 0W25 FP	31514511	1
RP	14,41	1K0 5% 0W25	31660016	1
RP	15	680R 5% 0W1 SMD	31425860	1
RP	16,17,25,26,27,28,31, 32,52,35,36,64	1K0 5% 0W1 SMD	31425820	1
RP	21,22	47R 5% 0W25 FP	31514525	1
RP	23,62	470R 5% 0W1 SMD	31425817	1
RP	37	47K 5% 0W25	31660026	1
RP	42	820R 5% 0W1 SMD	31425819	1
RP	43	15K 5% 0W1 SMD	31425835	1
RP	44	82K 5% 0W1 SMD	31425843	1
RP	48,56,57,68	270R 5% 0W1 SMD	31425855	1
RP	51,53,54	47K 5% 0W1 SMD	31425836	1
RP	55	27K 5% 0W1 SMD	31425839	1
RP	58	3K9 5% 0W1 SMD	31425830	1
RP	61,65,66,67	330R 5% 0W1 SMD	31425857	1
RP	84,86	100K 5% 0W1 SMD	31425844	1
CAPACITORS				
CP	1,2,3,53,54	22N 20% 50V SMD	32790009	1
CP	4,5,14,41,47,48,65,66	RAD 22U 20% 35V	34540021	2
CP	6,13	RAD 2U2 20% 63V	34540023	2
CP	7,25,26,31,33,36,37, 38,42,43,	100N 20% 50V SMD	32790011	1
CP	8,61,81	1N0 10% 50V SMD	32536203	1
CP	11,15,18,21,56,57, 71,72,73	470N 80/20% 50V SMD	32790012	2
CP	12,44,45,46,51,52,55,63, 64	100N 20% 50V SMD	32790011	1
CP	23,24,62	470N 80/20% 50V SMD	32790012	2
CP	27,32	4N7 10% 50V SMD	32790007	1
CP	28	470N 10% 63V	33127123	3
CP	34,35	18P 5% 50V SMD	32125520	1
CP	67,68	100P 5% 50V SMD	32125515	1
TRANSISTORS				
TP	2,3,4,5,6,7	NPN BC847B 45V SMD	36145312	2
DIODES				
DP	1	LS4148 75V 200mA SMD	36490002	1
INTEGRATED CIRCUITS				
ICP	1	TEA6050 DIL20	37440005	14
ICP	2	TEA5115 DIL18	37440002	12
ICP	3	TDA9141 DIL32SHR	37440006	27
ICP	4	TDA4665 V3 DIL16	37410008	14
ICP	5	SDA9187 2X SMD	37440010	23
ICP	6	SDA9188 3X SMD	37440011	31
COILS				
LP	1	0.26UH	45530003	5
LP	2,51,52,61,62	10UH 10% 230mA	45630002	3
CHRYSTALS				
ZP	4	BLK 3.579545MHz	45730001	8
ZP	3	BLK 4433.619kHz	45730002	9
ZP	5	BLK 20.48MHz	45730004	10
TUNER				
TU	1	TUNER SK1107	58231018	35

Item	Description	Order no.	PG
FILTERS			
ZP 1	G3962	45740003	16
ZP 2	TPS 5.5 MB	45558410	4
OTHERS			
WP 1	WIRE BUNDLE 6-PIN	96010040	10
XP 1	MODULE CONN 13-PIN	41720003	6
XP 2	CONNECTOR HEADER 6-PIN	41710002	3

[illegible]

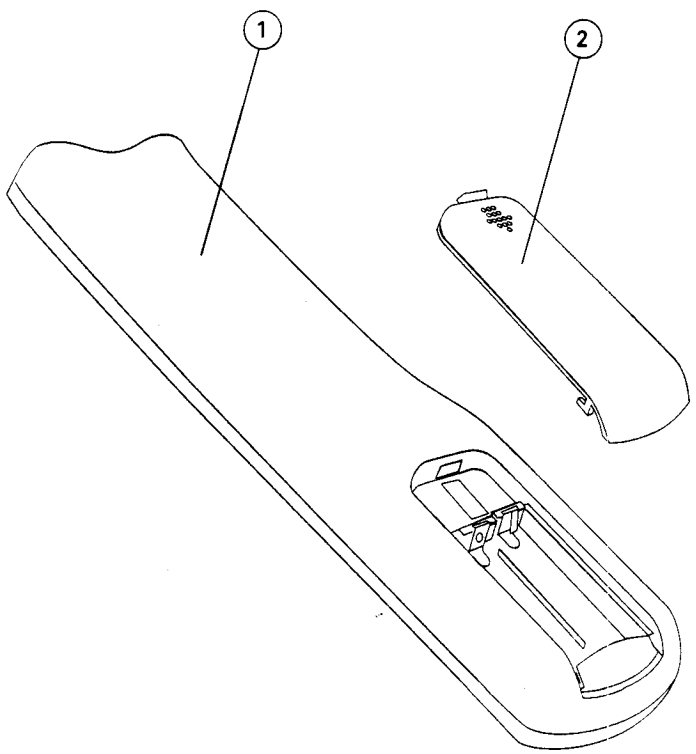
WOOFER	33004560	26
WIRE BUNDLE BOX STEL	96008820	6
BOX	UG0671	22

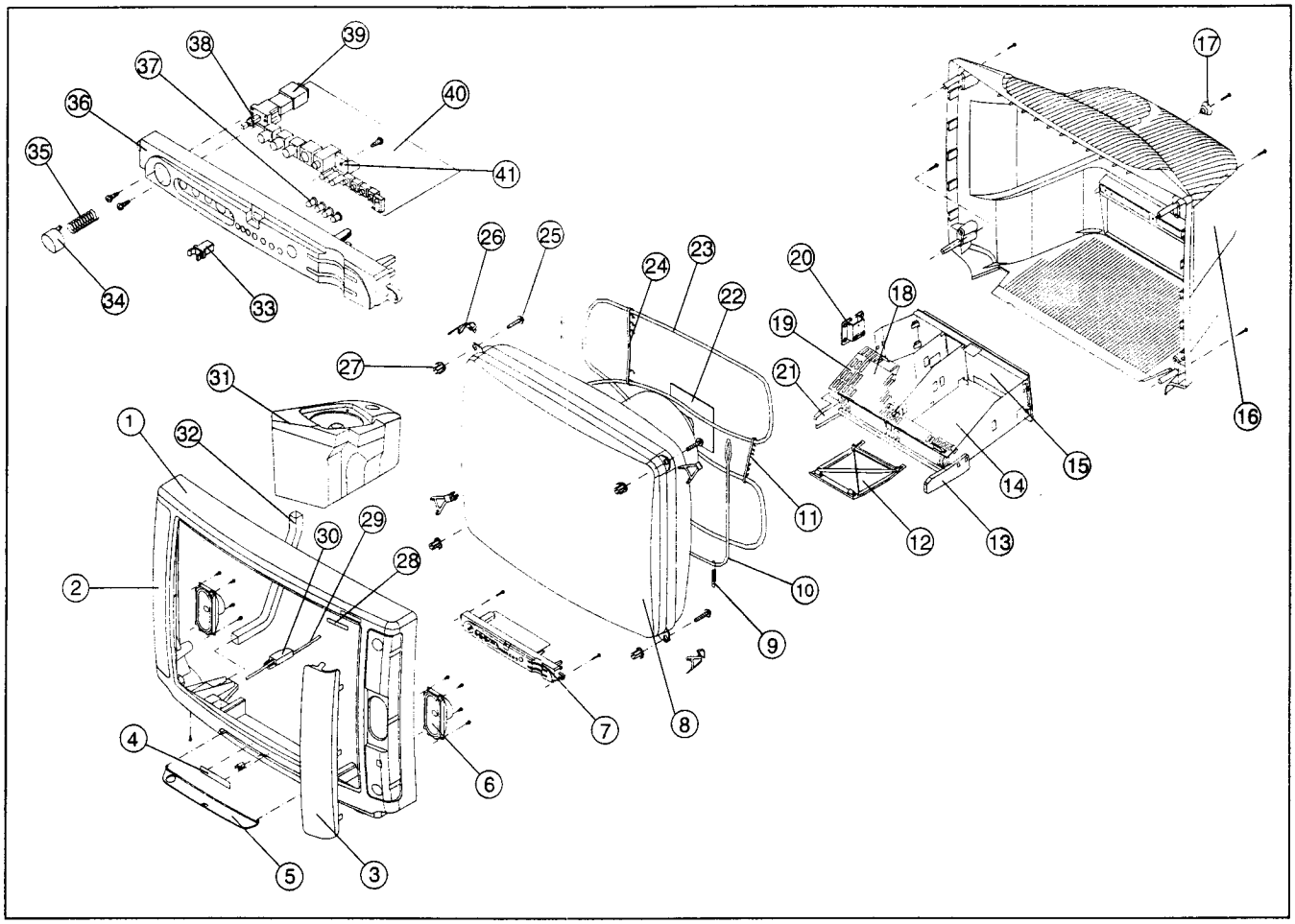
[illegible]062 SURROUND BOX

FRONT PANEL	UA5182B	17
LOUDSPEAKER	33004577	27
LOUDSPEAKER BOX	UA5181	17
GRILL FLX GREY	UC283P	21
COVER PLATE	80409466	8
CABLE	70003561	20
PT-SCREW KB 40X10	WC0353	1
PT-SCREW KB 40X20	WC0354	1
PT-SCREW KB40X14	62039261	1

[illegible]-600 REMOTE CONTROL

1	REMOTE CONTROL NOKIA	ERCN600	29
1	REMOTE CONTROL SALORA	ERCN601	30
2	BATTERY COVER GRAY	80418036	3
1	REMOTE CONTROL FINLUX	ERCF600	28
1	REMOTE CONTROL LUXOR	ERCF601	28
2	BATTERY COVER BLACK	80418029	4



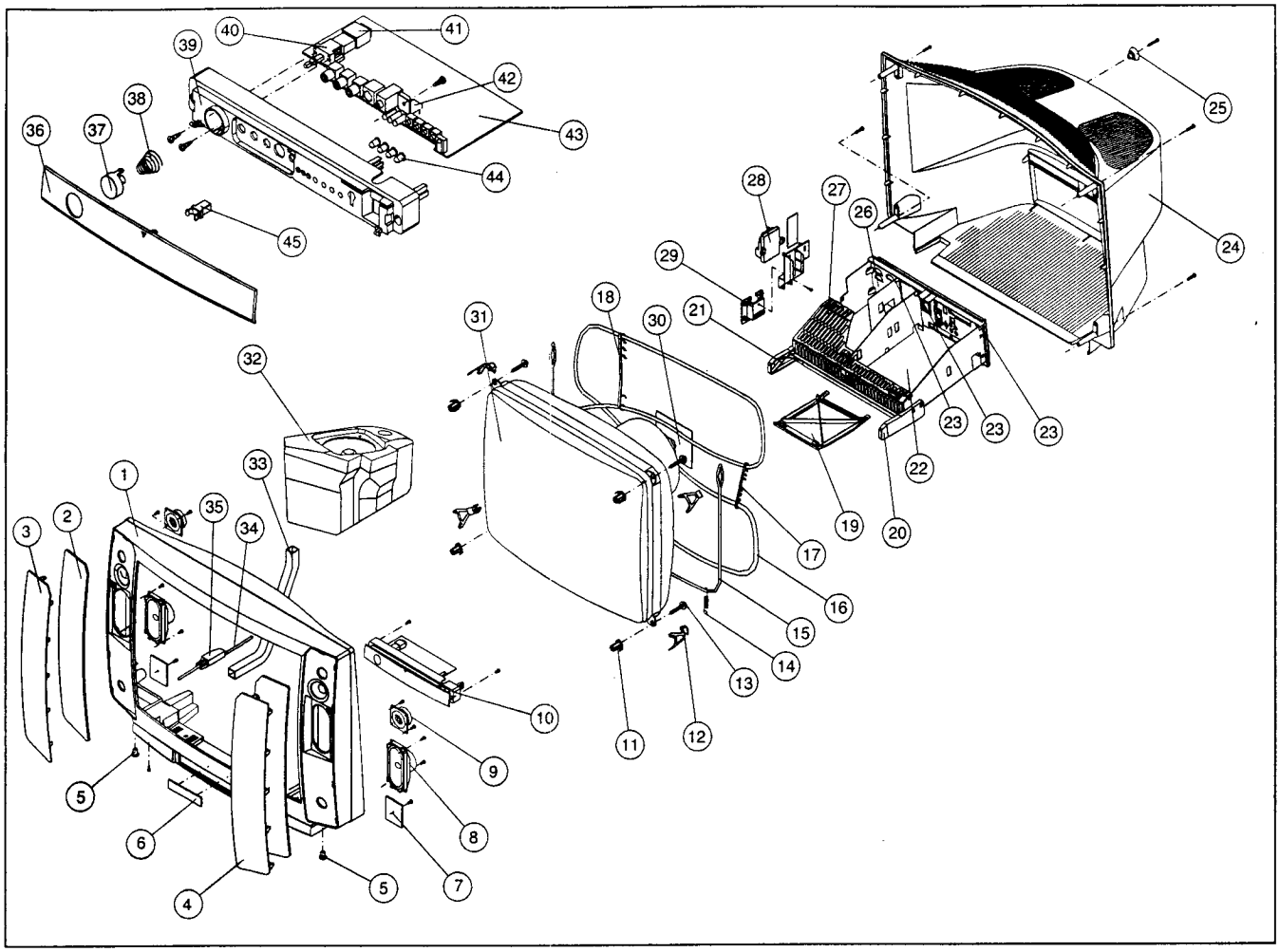


MECHANICAL PARTS

Item	Description		Code	PG
1	Cabinet Graphite grey	28"	E82070630	40
	Cabinet Graphite grey	25"	E82070322	40
2	Grill left Graphite grey	28"	E81408143	17
	Grill left Graphite grey	25"	E81408129	16
3	Grill right Graphite grey	28"	E81408136	17
	Grill right Graphite grey	25"	E81408112	16
4	Badge Nokia (51mm)		UA1243	08
	Badge Salora (58mm)		UA1245	08
	Badge Nokia Oceanic		E78200787	11
5	Door "Dolby Surround Pro Logic"		E80421110	11
	Door blanco		E80440312	06
6	Loudspeaker 10W 8 ohm		QP0122	23
7	Control unit		ESY620	37
8	Picture tube A66EDN43x01		E46002955	56
	Picture tube A59EDN43x01		E46002948	56
9	Grounding spring		E81401082	07
10	Grounding braid 28"		E96008248	11
	Grounding braid 25"		E96008231	12
11	Degaussing coil holder		E80424133	05
12	Protection for mainboard		E80409600	05
13	Chassis holder left		E80409559	09
14	Main board 50Hz B/G Nicam,Nokia, Salora		EASE1BK	99
	Main board 50Hz B/G Nokia		EASG1BK	99
	Main board 50Hz B/G Nokia		EASR1BL	99
15	Connector frame		E80409528	10
16	Back cover	28"	E82403116	28
	Back cover	25"	E82403023	26
17	Rubber pad		UL0104	03
18	Touch protection for chassis		E80409511	09
20	Connecting plate		E80409504	04
21	Chassis holder right		E80409542	09
22	CRT-module 50 Hz		EHH650	31
23	Degaussing coil	28"	E93030032	21
	Degaussing coil	25"	E93020035	21
24	Degaussing coil holder		E80403115	05
25	Picture tube fastening screw		E62034039	05
26	Degaussing coil holder		UG0585	03
27	Picture tube bushing		E80440430	04
28	Badge "Nokia technology"		UA8005	10
	Badge "Nicam stereo"		UA8000	08
29	Mains cable		E70003769	12
30	Strain relief		E80409573	02
31	Bassbox		SCE060	33
32	Bassbox support	28"	E81408105	10
	Bassbox support	25"	E81408098	11
33	Lock		E80413473	06
34	Push button		E80440329	03
35	Restore spring		UC3051	03
36	Control panel		E80310167	11
37	Push button		E80425203	01
38	Mains switch		G41210004	13
39	Protection for mains switch		UG0636	04
40	Control module		EFC600	36
41	Support		E81408167	03

MODULES

Active subwoofer module	EAV600	29
Combfilter module	ECF600	35
If-module B/G	ELL600	32
Surround sound module	EAR600	52
Surround sound loudspeaker box	SCE062	41

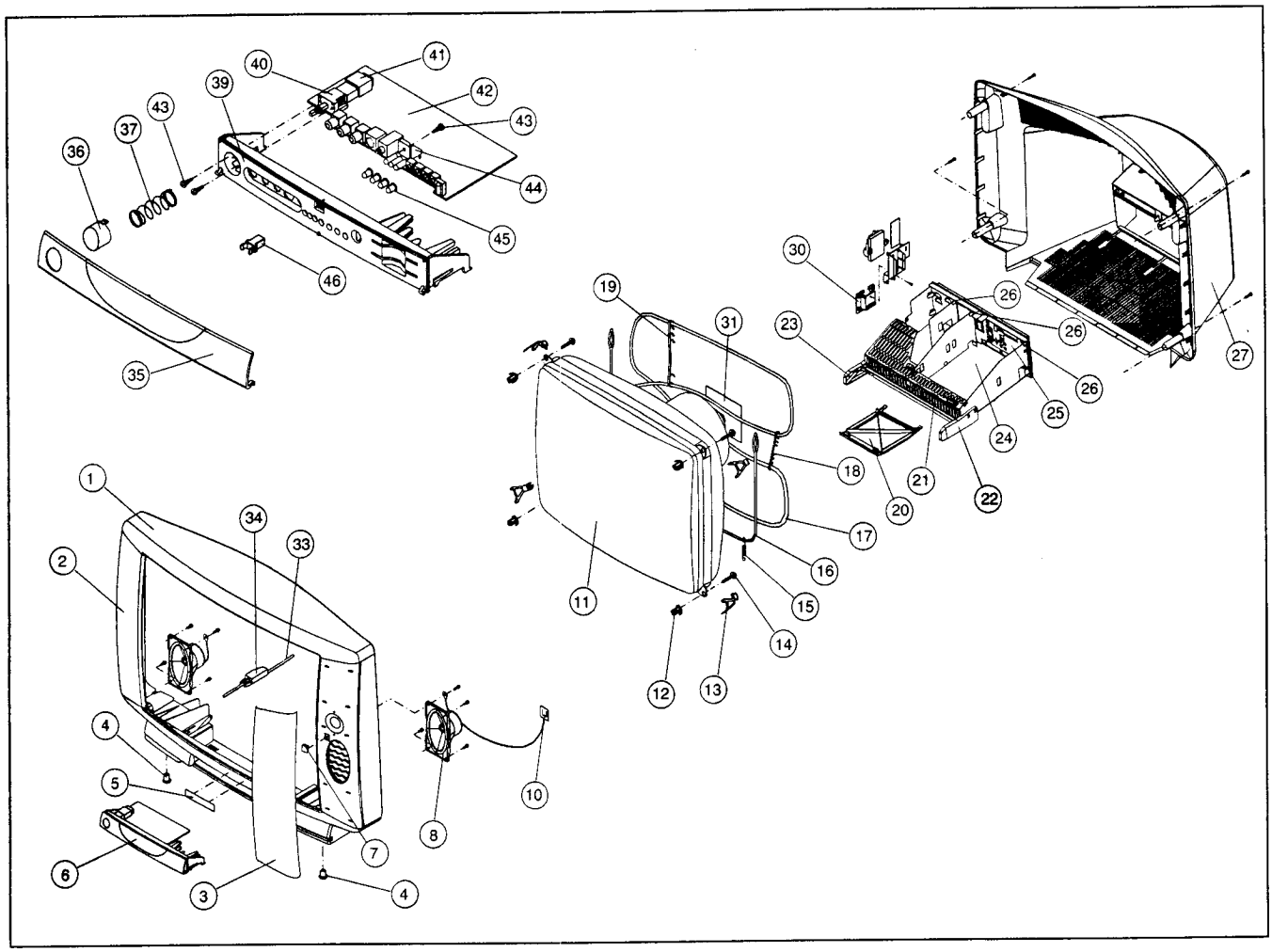


MECHANICAL PARTS

Item	Description		Code	PG
1	Cabinet Digital black	25"	E82022329	43
	Cabinet Digital black	28"	E82032322	43
	Cabinet White	28"	E82032331	44
	Cabinet 7438	29"	E82032457	43
3	Grill left Flx grey	25"	E81206014	17
	Grill left Flx grey	28"	E81206117	17
	Grill left 7438	29"	E81206211	17
4	Grill right Flx grey	25"	E81206021	17
	Grill right Flx grey	28"	E81206124	17
	Grill right 7438	29"	E81206228	17
5	Foot pad		E80424027	06
6	Badge Finlux 34mm	25"	E78200375	06
	Badge Finlux 53mm	28"	UA8027	10
	Badge Luxor		UA1249	08
7	Crossover module		EAJ601	21
8	Loudspeaker 10W 8 ohm		E33004519	21
9	Tweeter AM TW 51A 8 ohm		E33004365	19
10	Control unit U1	28"	ESY600	38
	Control unit U1	25"	ESY601	38
11	Picture tube bushing		E80440430	04
12	Degaussing coil holder		UG0585	03
13	Picture tube fastening screw		WC0426	07
14	Grounding spring		E81401082	07
15	Grounding braid	25"	E96008231	12
	Grounding braid	28"	E96008248	11
16	Degaussing coil	25"	E93020035	21
	Degaussing coil	28"	E93030032	21
17	Degaussing coil holder		E80424133	05
18	Degaussing coil holder		E80403115	05
19	Main board protection		E80409600	05
20	Chassis holder left		E80409535	06
21	Chassis holder right		E80409559	09
22	Mainboard 50Hz B/G Nicam Finlux		EASE2BL	99
	Mainboard 50Hz B/G Nicam Luxor		EASE2BK	99
	Mainboard 50Hz B/G Nicam Luxor 7438		EASE2CK	99
23	Connecting piece		E80409567	03
24	Back cover Black	25"	E82402518	26
	Back cover Black	28", 29"	E82402511	28
	Back cover White	28"	E82402525	29
25	Rubber pad		UL0104	03
26	Connector frame		E80409528	10
27	Touch protection for chassis		E80409511	09
28	Focus unit		G31250002	14
29	Connecting plate		E80409504	04
30	Picturetube socket board		HH650	31
31	Picture tube A66EDN 43X01		E46002955	56
	Picture tube A56EDN 43X01		E46002948	56
	Picture tube A68EEH0 48X101		E46002962	99
32	Bassbox 2x15W 4 ohm		SCE060	33
33	Bassbox support	25"	E81408098	11
	Bassbox support	28", 29"	E81408105	10
34	Mains cable		E70003769	12
35	Strain relief		E80409573	02
36	Door Black invar		E80432136	14
	Door Dolby surround Pro Logic		E80432198	14
37	Mains button		E80425241	05
38	Restore spring		UC3131	02
39	Control panel		E80310265	13
40	Mains switch		G41210004	13
41	Protection for mains switch		UG0636	04
42	Support		E81408167	03
43	Control module		EFC600	36
44	Push button		E80425203	01
45	Lock		E80413473	06
	Backcover for loudspeaker box left 7438		80302636	12
	Backcover for loudspeaker box right 7438		80302643	12

MODULES

Active subwoofer module	EAV600	29
Combfilter module	ECF600	35
If-module B/G	ELL600	32
Surround sound module	EAR600	52
Surround sound loudspeaker box	SCE062	41

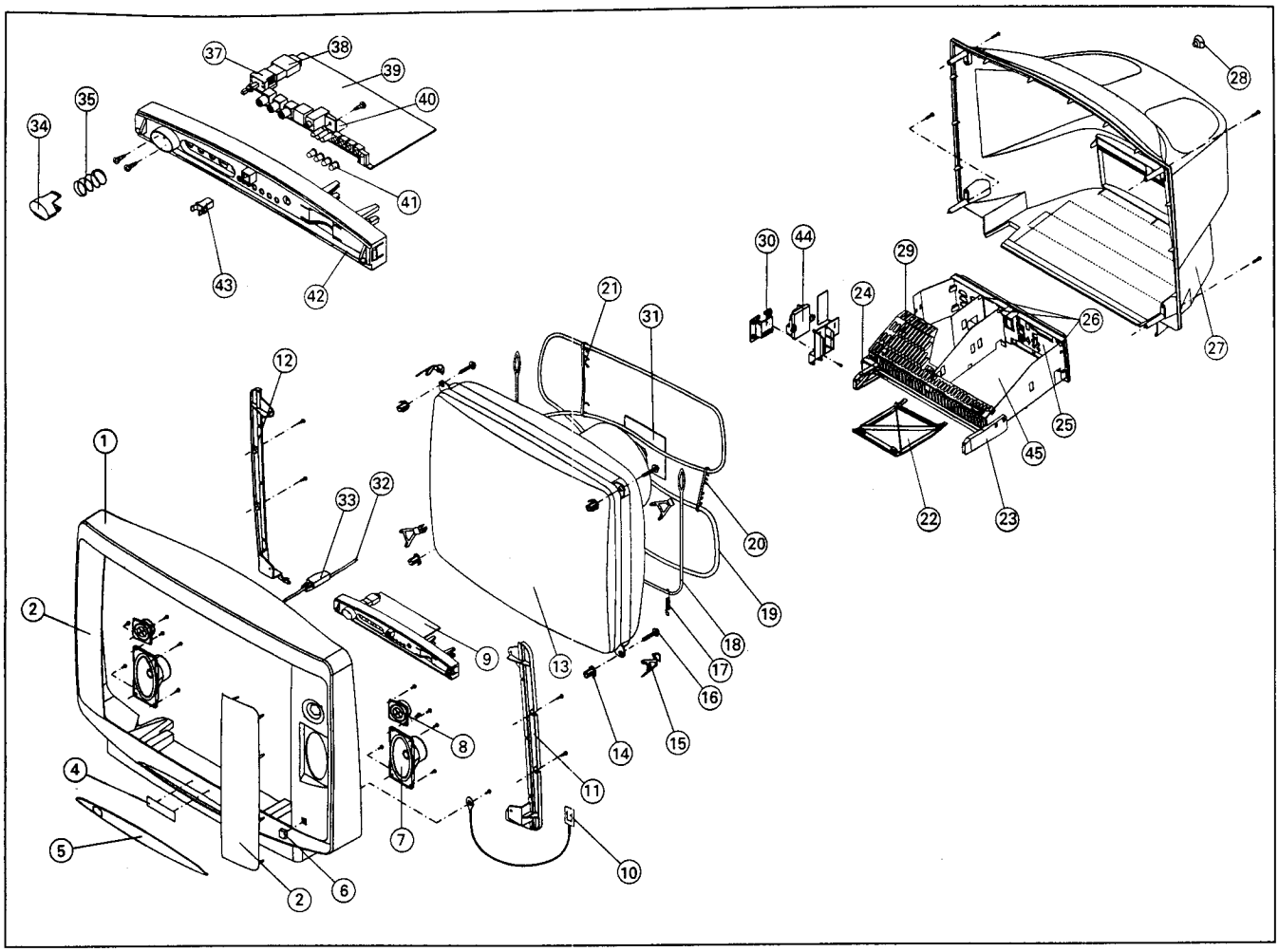


MECHANICAL PARTS

Item	Description		Code	PG
1	Cabinet Z2 (With integrated grill)	28"	E82003333	37
1	Cabinet Z2 (With integrated grill)	25"	E82003421	36
(1	Cabinet Z2	28"	E82003326	37)
(2	Grill left		E81204105	16)
(3	Grill right		E81204112	16)
4	Foot pad		E80424027	06
5	Badge FINLUX 34mm		E78200375	06
	Badge LUXOR		UA1249	08
6	Control unit		ESY640	38
7	Grounding piece		E80409295	03
8	Loudspeaker 10W 8 ohm		QP0222	21
10	Grounding wire		E96020051	05
11	Picture tube A66ECY13X01		E46002897	60
12	Picturetube bushing		E80440430	04
13	Degaussing coil holder		UG0585	03
14	Picture tube fastening screw		WC0426	07
15	Grounding spring		E81401082	01
16	Grounding braid		E96008248	11
17	Degaussing coil		E93030032	21
18	Degaussing coil holder		E80424133	05
19	Degaussing coil holder		E80403115	05
20	Main board protection		E80409600	05
24	Main board	FINLUX	EASE2DL	60
	Main board	LUXOR	EASE2DL	60
25	Connector frame		E80409528	10
21	Touch protection		E80409511	09
22	Chassis holder, left		E80409535	06
23	Chassis holder, right		E80409559	09
26	Connecting piece		E80409567	03
27	Back cover 28Z black		E82402604	27
30	Connecting plate		E80409504	04
31	CRT module 50 Hz		EHH650	31
33	Mains cable		E70003769	12
34	Strain relief		E80409573	02
35	Flap Z2 Graphite Gray		E80426071	19
36	Mains button		E80425227	06
37	Restore spring		UC3051	03
39	Control panel		E80310419	15
40	Mains switch		G41210004	13
41	Mains switch protection		UG0636	04
42	Control module		EFC600	36
44	Support		E81408167	03
45	Push button		E80425203	01
46	Lock		E80413473	06

MODULES

IF-module B/G	ELL600	32



MECHANICAL PARTS

Item	Description	Code	PG
1	Cabinet Graphite grey 29F1	E82009508	43
2	Grill right/left Graphite grey 29"	E81204181	19
4	Badge Nokia (51mm)	UA1243	08
5	Door F1	E80402446	12
6	Grounding piece	E80409295	03
7	Loudspeaker 10W 8 ohm	QP0222	21
8	Tweeter AM TW 51A 8 ohm	E33004365	19
9	Control unit	ESY650	37
10	Grounding wire	E96020051	07
11	Loudspeaker cover, left	E80302701	12
12	Loudspeaker cover, right	E80302698	12
13	Picture tube A68EEH048X101 Vid.	E46002962	60
14	Picture tube bushing	E80440430	04
15	Degaussing coil holder	E80409617	03
16	Picture tube fastening screw	WC0426	07
17	Grounding spring	E81401082	07
18	Grounding braid	E96010103	13
19	Degaussing coil	E93030032	21
20	Degaussing coil holder	E80424133	05
21	Degaussing coil holder	E80403115	05
22	Main board protection	E80409600	05
23	Chassis holder left	E80409535	06
24	Chassis holder right	E80409542	09
25	Connector frame	E80409528	10
26	Connecting piece	E80409566	03
27	Back cover Black	E82402511	28
28	Cover plug	E80409631	05
29	Touch protection for chassis	E80409511	09
30	Connecting plate	E80409504	04
31	CRT-module	HH65031	
32	Mains cable	E70003769	12
	Mains cable	E70003707	17
33	Strain relief	E80409573	02
34	Mains button	E80425241	05
35	Restore spring	UC3051	03
37	Mains switch	G41210004	13
38	Protection for mains switch	UG0636	04
39	Control module	EFC600	36
40	Support	E81408167	03
41	Push button	E80425203	01
42	Control panel	E80311011	13
43	Lock	E80413473	06
44	Focus unit	G31250002	14
45	Mainboard 50Hz B/G	EASG1CK	99
	Mainboard 50Hz B/G	EASE1CK	99
	Mainboard 50Hz B/G	EASR1CL	99
	Mainboard 50Hz B/G	EASE5CK	99

MODULES

If-module B/G	ELL600	32